

ENGLISHSTUBBRIDGES.DGN - 100-S - THIS SHEET ISSUED 02-10.

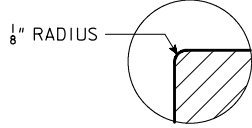
INDEX OF STUB BRIDGE STANDARDS	
STANDARD	DESCRIPTION
2092	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - 0 SKEW
2093	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (R.A.) 0°01-7°30 SKEWS
2094	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (R.A.) 7°31-15 SKEWS
2095	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (R.A.) 15°01-30 SKEWS
2096	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (L.A.) 0°01-7°30 SKEWS
2097	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (L.A.) 7°31-15 SKEWS
2098	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (L.A.) 15°01-30 SKEWS
2099	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - 0 SKEW
2100	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (R.A.) 0°01-7°30 SKEWS
2101	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (R.A.) 7°31-15 SKEWS
2102	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (R.A.) 15°01-30 SKEWS
2103	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (L.A.) 0°01-7°30 SKEWS
2104	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (L.A.) 7°31-15 SKEWS
2105	"C" OR "D" BEAMS - STUB ABUTMENT DETAILS - (L.A.) 15°01-30 SKEWS
4305	30' WELDED CROSS SECTION LRFD DESIGN
4305A	ALTERNATE INTERMEDIATE DIAPHRAGM FOR WELDED GIRDER BRIDGES
4308	40' WELDED CROSS SECTION LRFD DESIGN
4309	44' WELDED CROSS SECTION LRFD DESIGN
4310	40' WELDED CROSS SECTION (SYMM CROWN) LRFD DESIGN
4542	PART PLAN & LONGIT. SECT. - "B", "C", & "D" BEAMS, STUB ABUT., 0 SKEW
4543	PART PLAN & LONGIT. SECT. - "B", "C", & "D" BEAMS, STUB ABUT. (L.A.) 0°01 - 7°30 SKEW
4544	PART PLAN & LONGIT. SECT. - "B", "C", & "D" BEAMS, STUB ABUT. (L.A.) 7°31 - 15° SKEW
4545	PART PLAN & LONGIT. SECT. - "B", "C", & "D" BEAMS, STUB ABUT. (L.A.) 15°01 - 30° SKEW
4546	PART PLAN & LONGIT. SECT. - "B", "C", & "D" BEAMS, STUB ABUT. (R.A.) 0°01 - 7°30 SKEW
4547	PART PLAN & LONGIT. SECT. - "B", "C", & "D" BEAMS, STUB ABUT. (R.A.) 7°31 - 15° SKEW
4548	PART PLAN & LONGIT. SECT. - "B", "C", & "D" BEAMS, STUB ABUT. (R.A.) 15°01 - 30° SKEW
4549	STUB ABUT. "B", "C", & "D" BEAMS, BAR LIST & SUPER. DETAILS - 0 SKEW
4550	STUB ABUT. "B", "C", & "D" BEAMS, BAR LIST & SUPER. DETAILS - 0°01 - 7°30 SKEW
4551	STUB ABUT. "B", "C", & "D" BEAMS, BAR LIST & SUPER. DETAILS - 7°31 - 15° SKEW
4552	STUB ABUT. "B", "C", & "D" BEAMS, BAR LIST & SUPER. DETAILS - 15°01 - 30° SKEW
4556	30' RDW. PPCB ("B", "C", & "D" BEAMS - STUB ABUT.) CROSS SECTION
4559	40' RDW. PPCB ("B", "C", & "D" BEAMS - STUB ABUT.) CROSS SECTION
4560	44' RDW. PPCB ("B", "C", & "D" BEAMS - STUB ABUT.) CROSS SECTION
4561	40' RDW. PPCB ("B", "C", & "D" BEAMS - STUB ABUT.) CROSS SECTION (SYMM CROWN)

INDEX OF STUB BRIDGE STANDARDS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. _____ DESIGN NO. _____

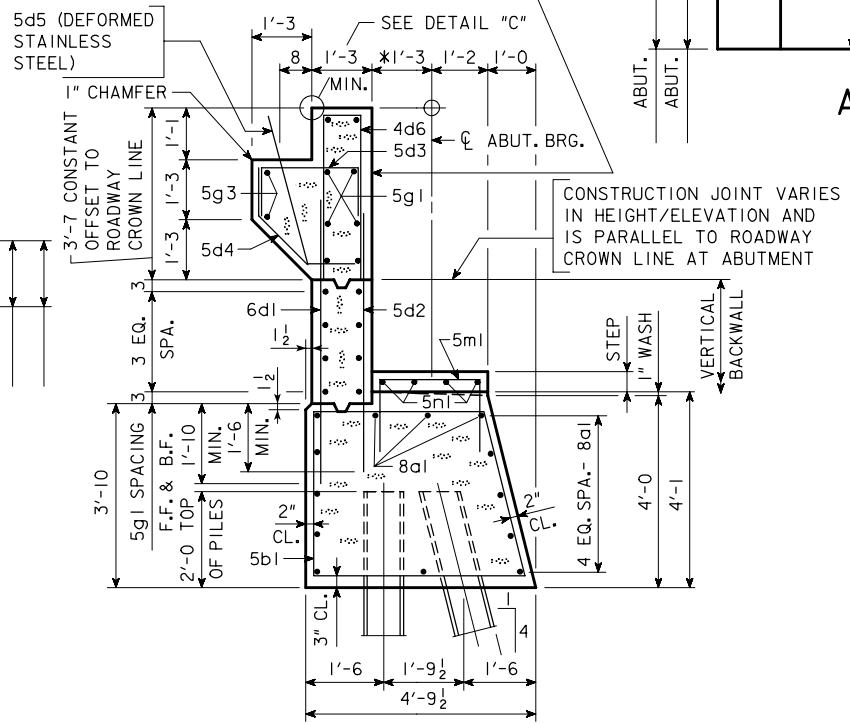
W:\Highway\Bridge\Standards\Bridges\EnglishStubBridges.dgn 2095 \\ntpprtsvr2\BrqPDF

BENCH MARK :



* THIS DIMENSION MAY VARY. TILTING OF THE PAVEMENT SUPPORT SECTION DURING CONSTRUCTION MAY BE NECESSARY TO ACCOMMODATE PROPER SETTING OF THE STRIP SEAL EXPANSION DEVICE OPENING.

DETAIL "C"



SECTION THROUGH ABUTMENT
EXPANSION DEVICE NOT SHOWN



ABUTMENT STEP DIAGRAM
REAR ELEVATION

TABLE OF ABUTMENT ELEVATIONS

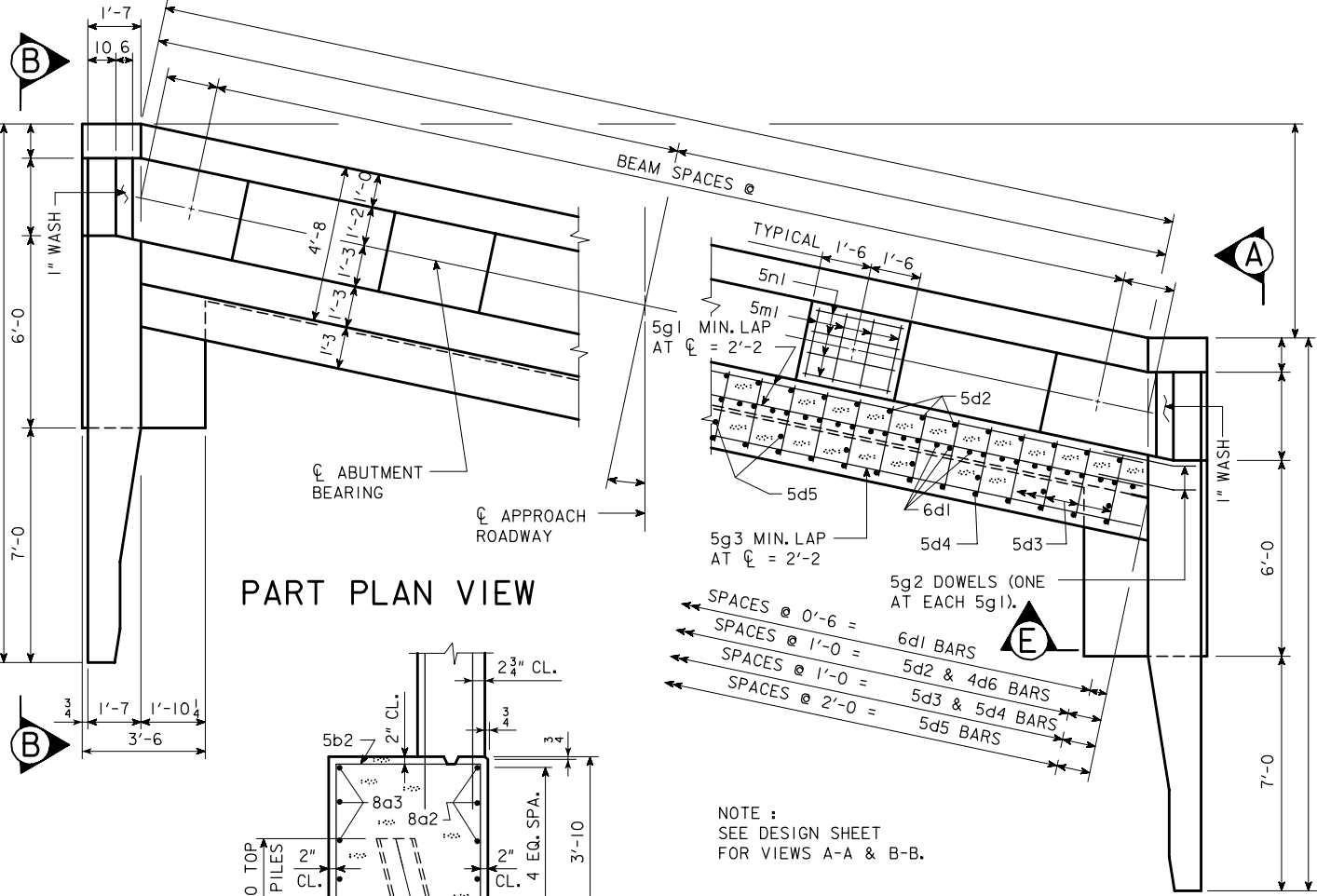
POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

TABLE OF ABUTMENT STEPS

STEP	ABUTMENT	ABUTMENT
a		

REAR ELEVATION

NOTE :
PLACE 5m1 AND 5n1 BARS UNDER EACH BEAM. FLARE 5m1 BARS AND FIELD CUT 5n1 BARS TO FIT STEPS AT THE EXTERIOR BEAMS.



PART PLAN VIEW

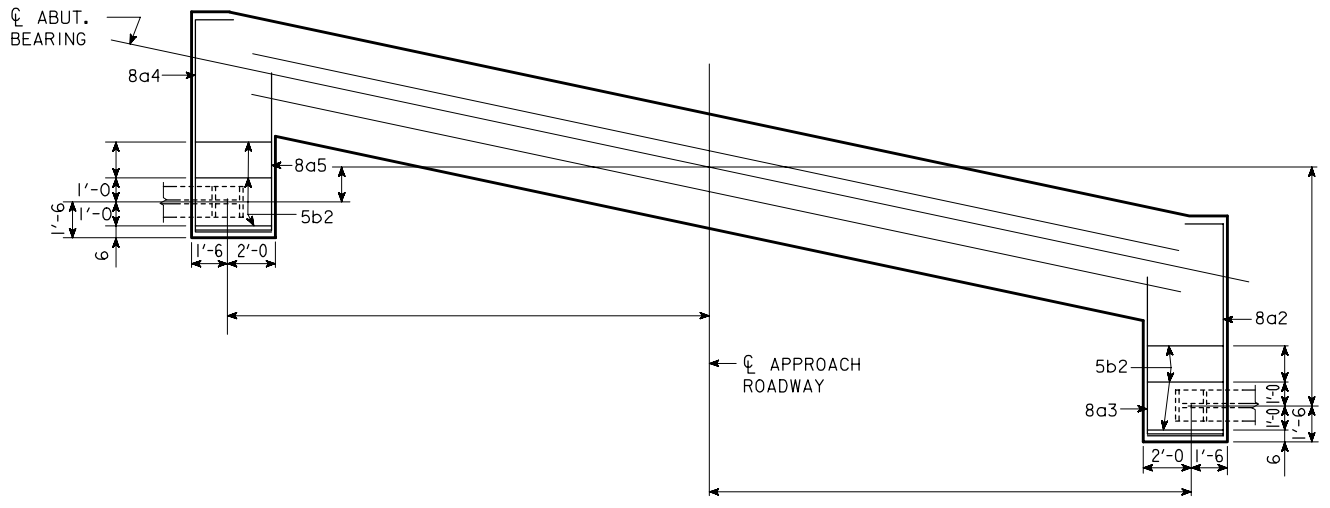
PART SECTION THROUGH BACKWALL

SECTION E-E

NOTE :
SEE DESIGN SHEET FOR VIEWS A-A & B-B.

NOTE :
DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING. BATTER PILES IN THE DIRECTION SHOWN. ?? - HP10x42 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.



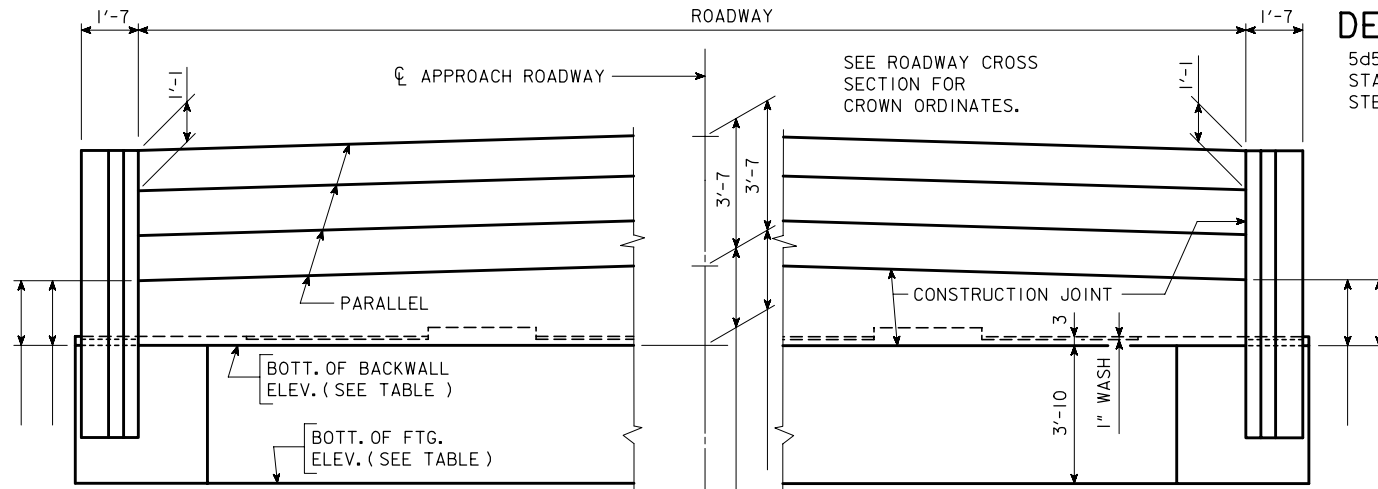
PILING LAYOUT

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

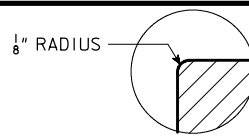
REVISED 03-08 - ABUTMENT WING SHAPE CHANGED.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2097 - THIS SHEET REDRAWN 5-23-91.

REVISED 03-08 - ABUTMENT WING SHAPE CHANGED.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2098 - THIS SHEET REDRAWN 5-23-91.

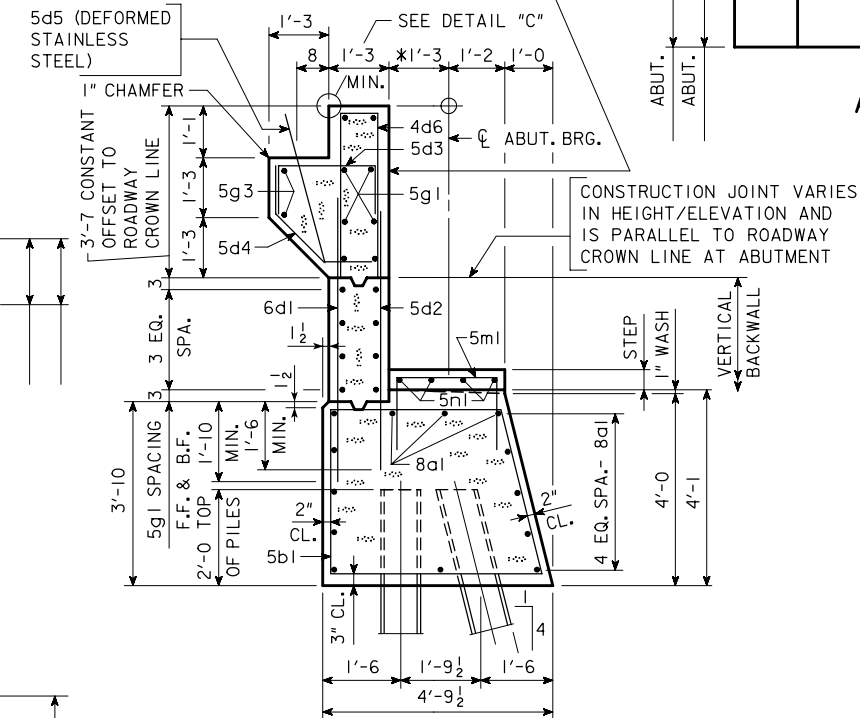
BENCH MARK :



REAR ELEVATION

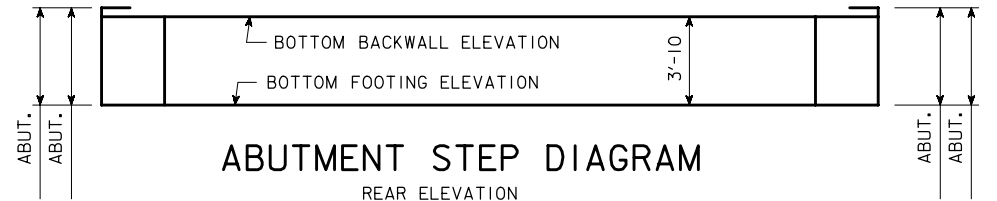


DETAIL "C"



SECTION THROUGH ABUTMENT

EXPANSION DEVICE NOT SHOWN



ABUTMENT STEP DIAGRAM

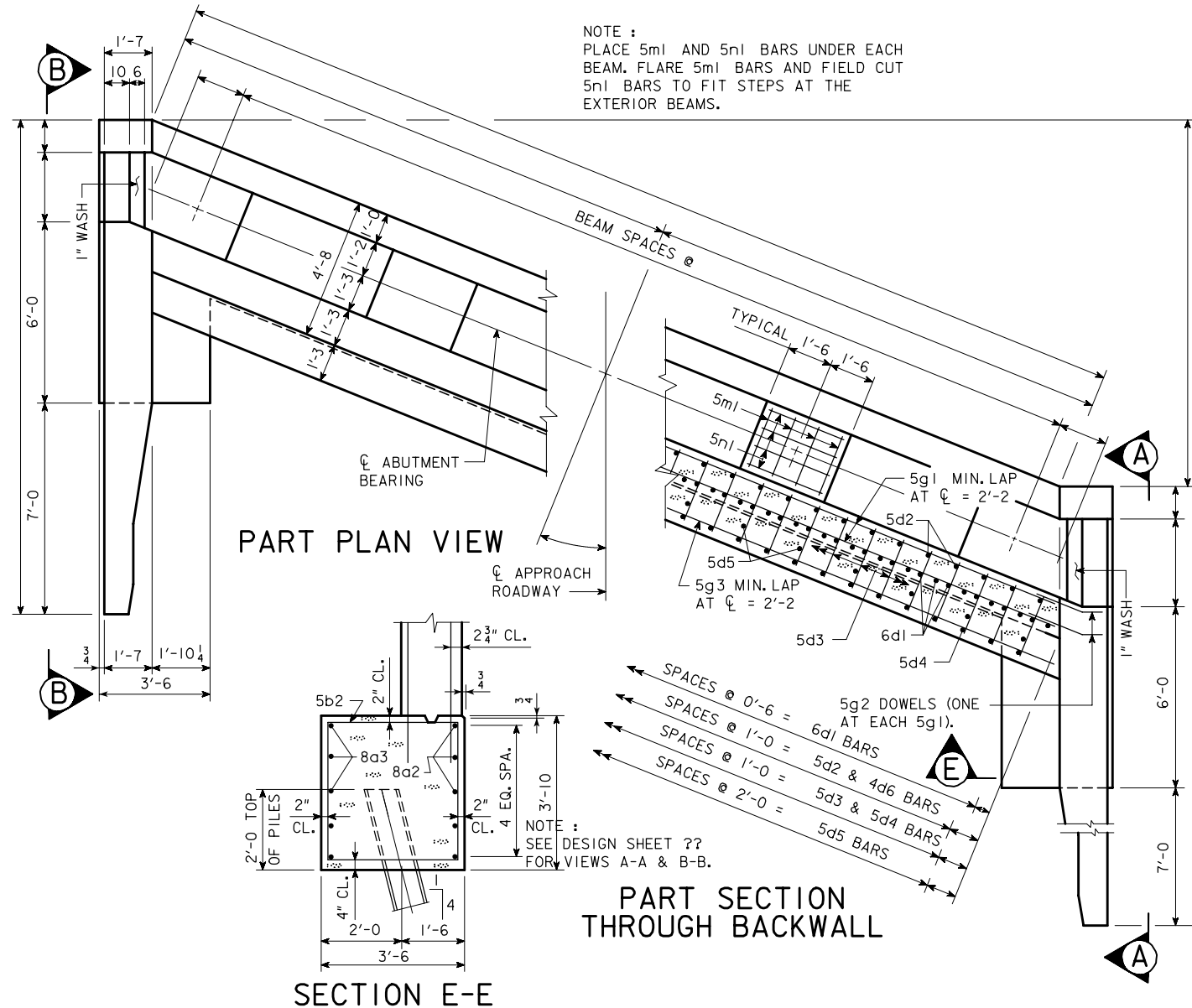
REAR ELEVATION

TABLE OF ABUTMENT ELEVATIONS

POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT.BACKWALL ELEV.		
BOTT.FTG. ELEV.		

TABLE OF ABUTMENT STEPS

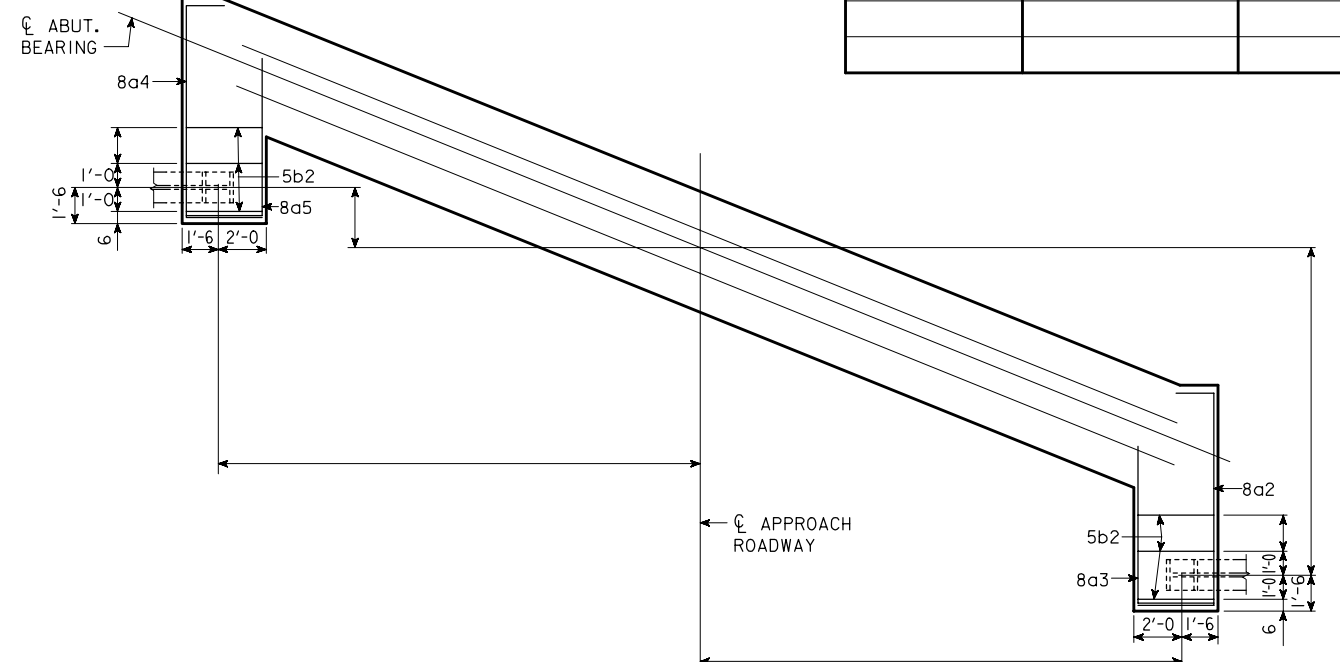
STEP	ABUTMENT	ABUTMENT
a		



PART PLAN VIEW

PART SECTION THROUGH BACKWALL

SECTION E-E



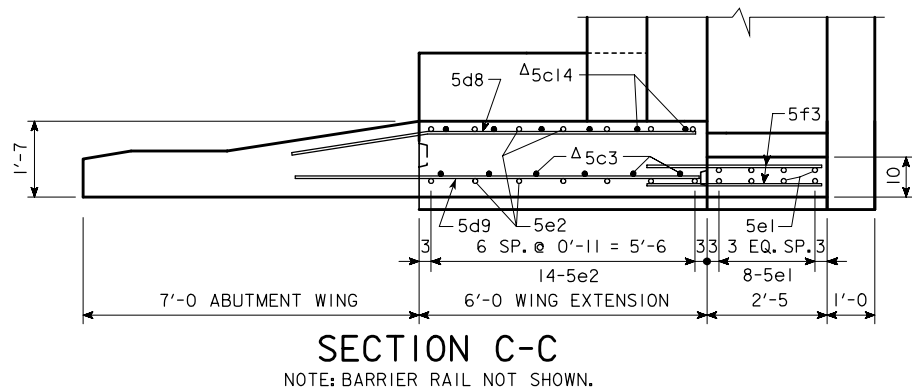
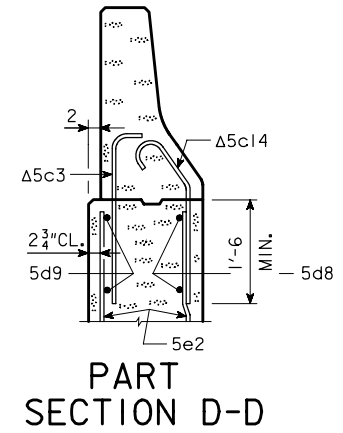
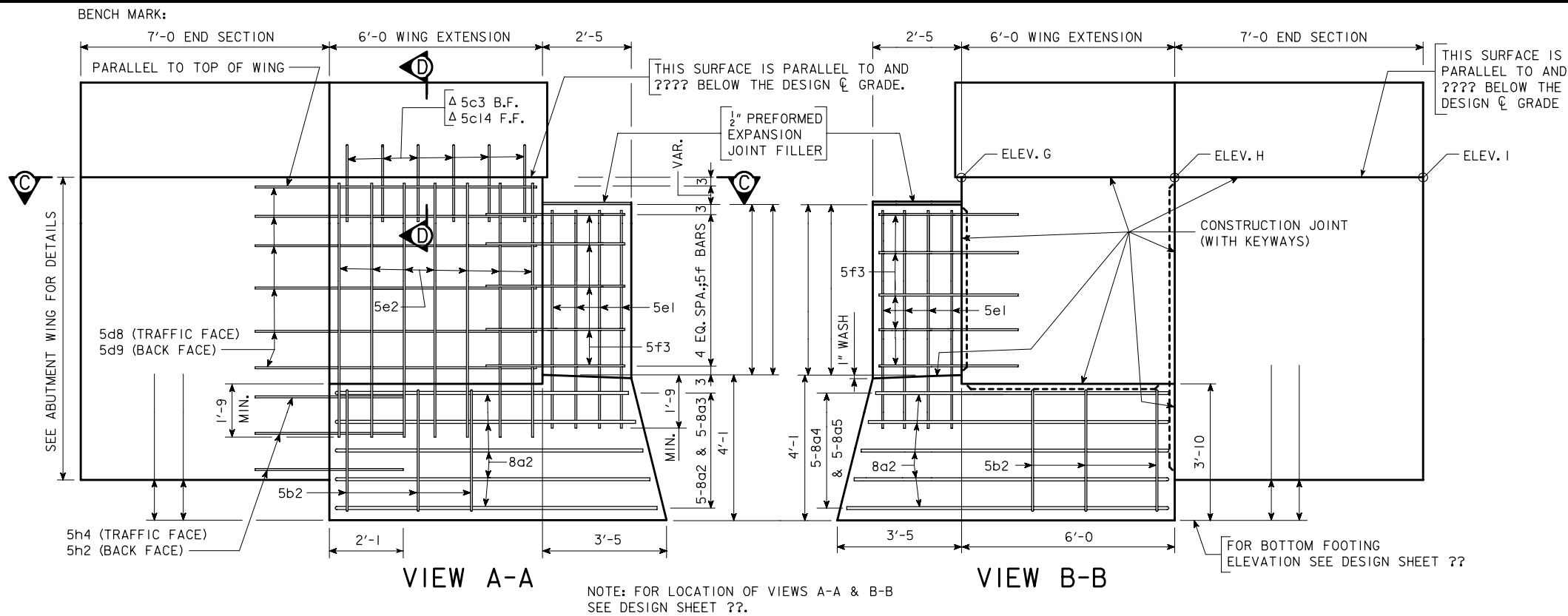
PILING LAYOUT

NOTE :
DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING.
BATTER PILES IN THE DIRECTION SHOWN.
?? - HPI0x42 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

REVISED 03-08 - ABUTMENT WING SHAPE CHANGED. QUANTITIES, NOTES, BAR LIST & BENT BAR DETAILS MOVED TO ANOTHER STANDARD.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2099 - THIS SHEET REDRAWN 9-8-88.



Δ NOTE: SEE DESIGN SHEET ?? IN
THESE PLANS FOR DETAILS OF
BARRIER RAIL WING EXTENSIONS.
REINFORCING BARS 5c3 AND 5c14
ARE INCLUDED IN THE SUPERSTRUCTURE
QUANTITIES.

TABLE OF WINGWALL ELEVATIONS			
LOCATION	ELEV. G	ELEV. H	ELEV. I

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

REVISED 03-08 - ABUTMENT WING SHAPE CHANGED. QUANTITIES, NOTES, BAR LIST & BENT BAR DETAILS MOVED TO ANOTHER STANDARD.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2100 - THIS SHEET REDRAWN 9-8-88.

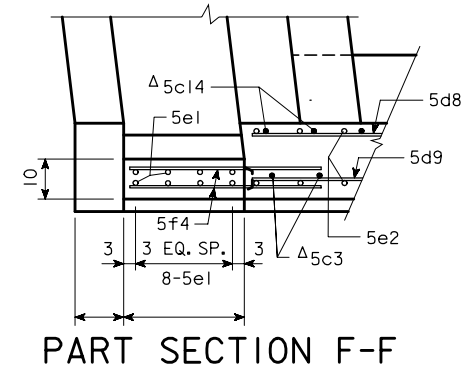
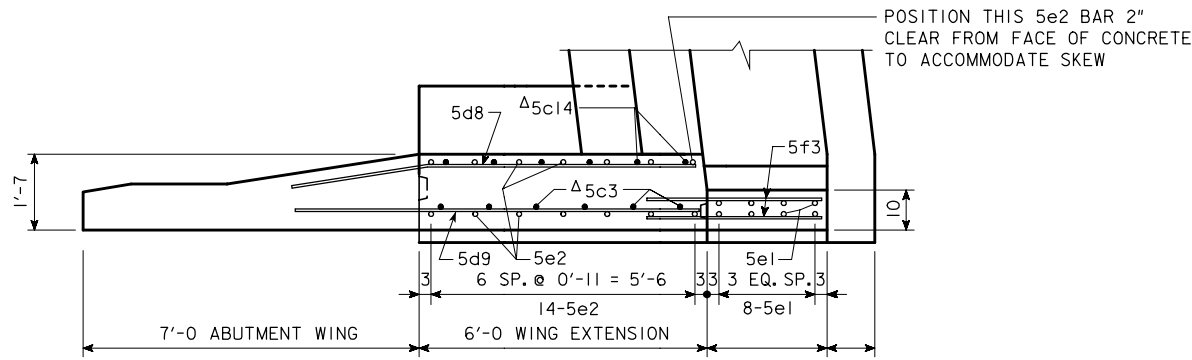
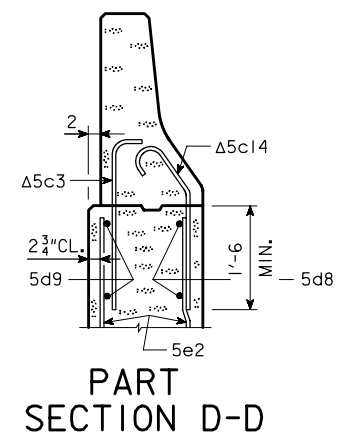
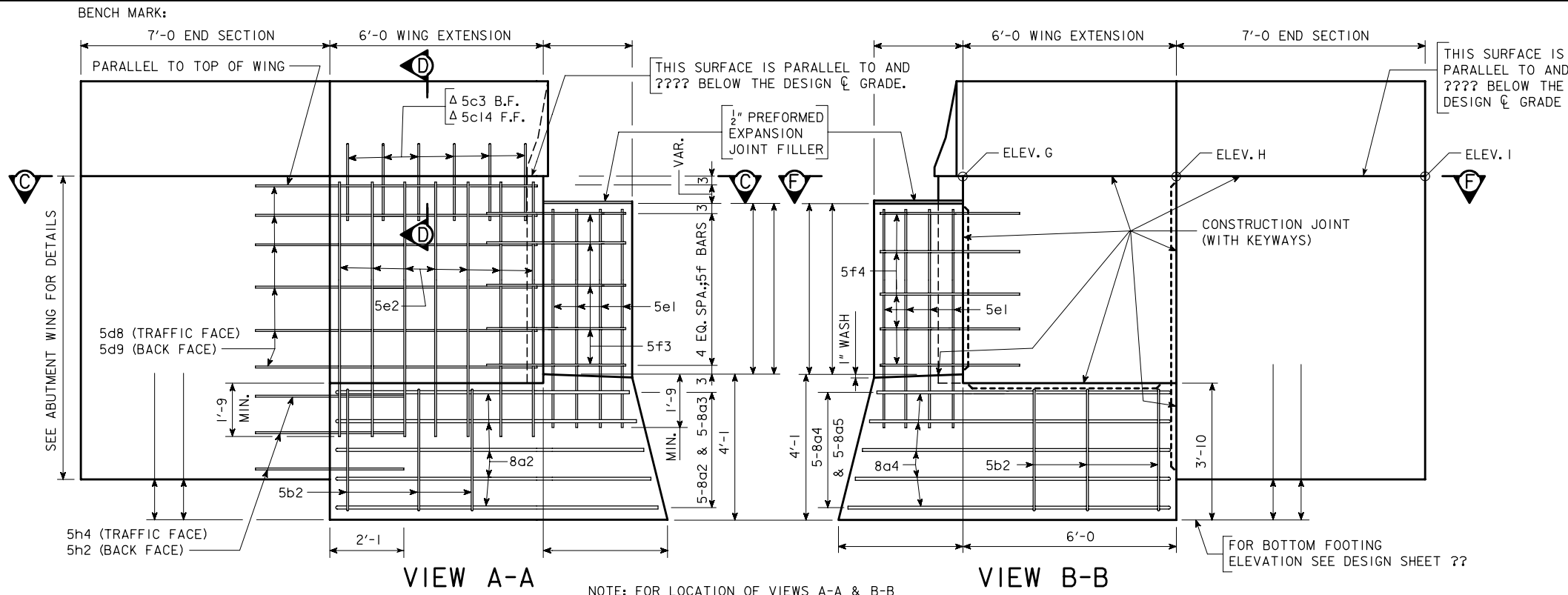


TABLE OF WINGWALL ELEVATIONS			
LOCATION	ELEV. G	ELEV. H	ELEV. I

Δ NOTE: SEE DESIGN SHEET ?? IN THESE PLANS FOR DETAILS OF BARRIER RAIL WING EXTENSIONS. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN THE SUPERSTRUCTURE QUANTITIES.

REVISED 03-08 - ABUTMENT WING SHAPE CHANGED, QUANTITIES, NOTES, BAR LIST & BENT BAR DETAILS MOVED TO ANOTHER STANDARD.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2101 - THIS SHEET REDRAWN 9-8-88.

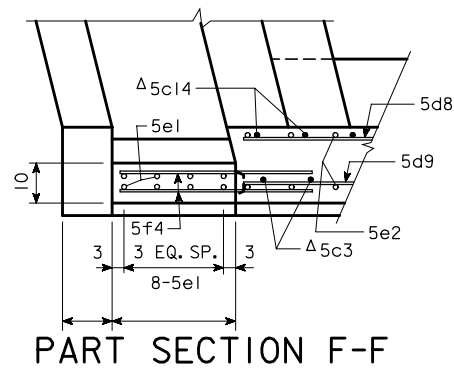
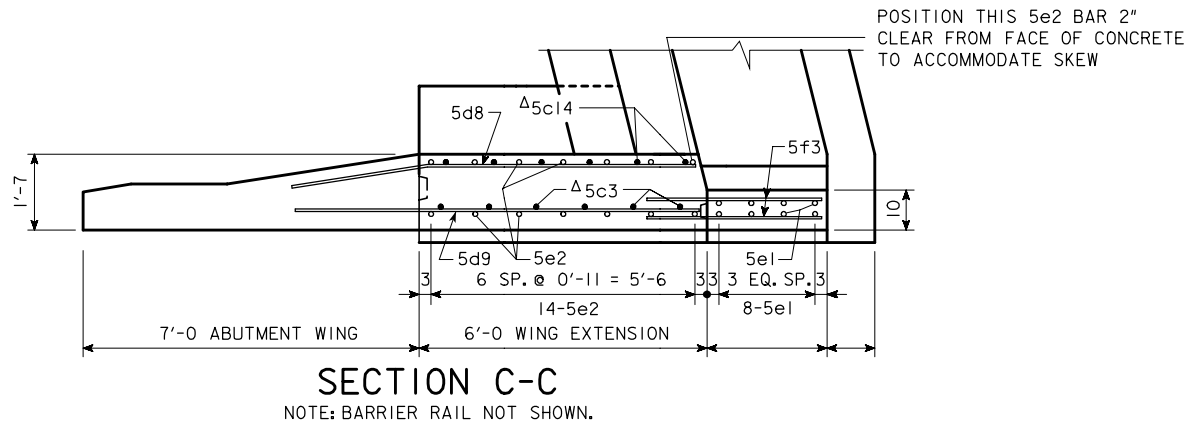
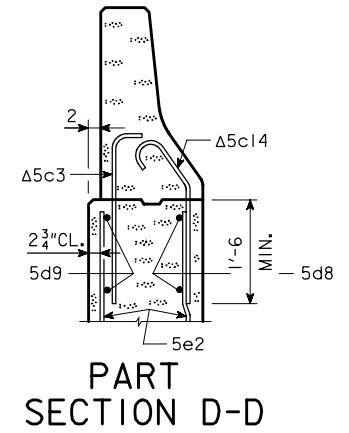
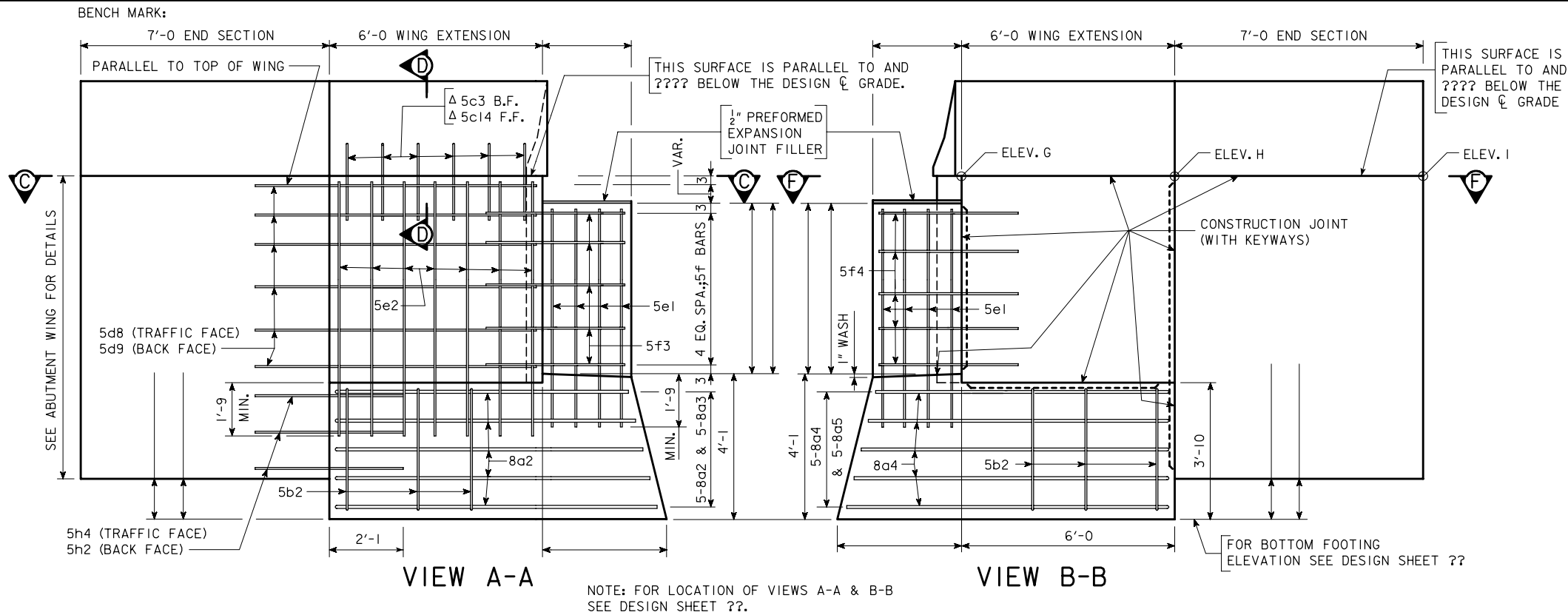


TABLE OF WINGWALL ELEVATIONS			
LOCATION	ELEV. G	ELEV. H	ELEV. I

Δ NOTE: SEE DESIGN SHEET ?? IN THESE PLANS FOR DETAILS OF BARRIER RAIL WING EXTENSIONS. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN THE SUPERSTRUCTURE QUANTITIES.

REVISED 03-08 - ABUTMENT WING SHAPE CHANGED. QUANTITIES, NOTES, BAR LIST & BENT BAR DETAILS MOVED TO ANOTHER STANDARD.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2102 - THIS SHEET REDRAWN 9-8-88.

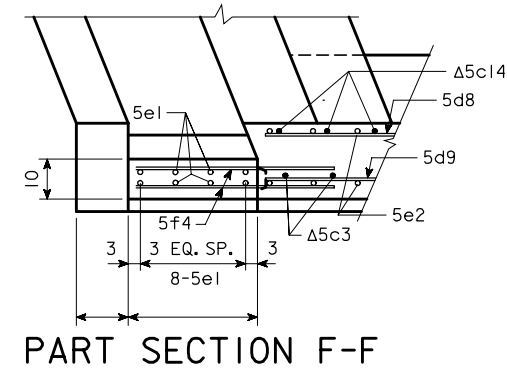
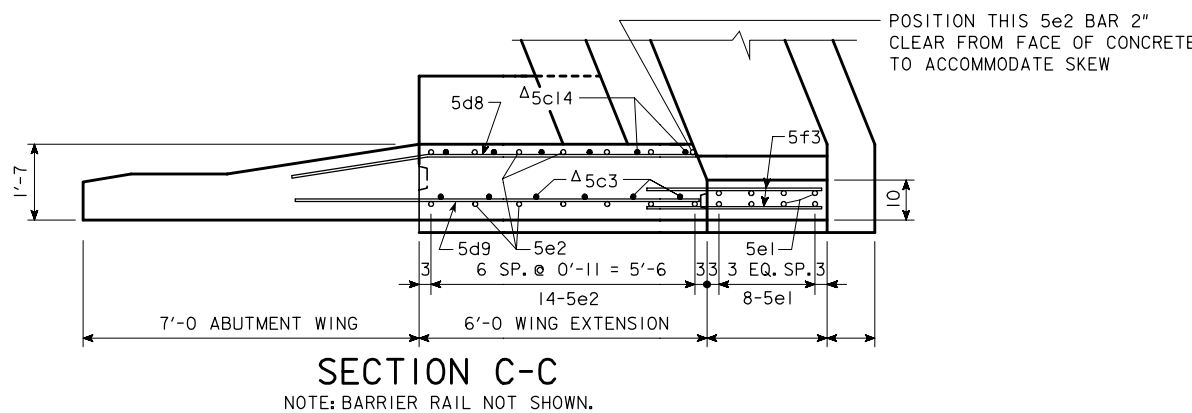
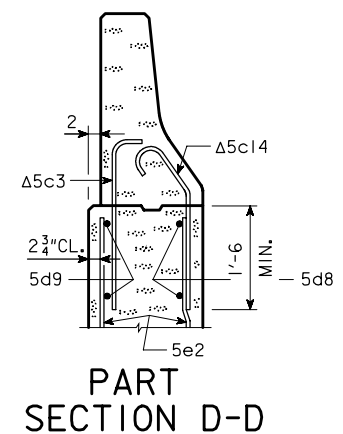
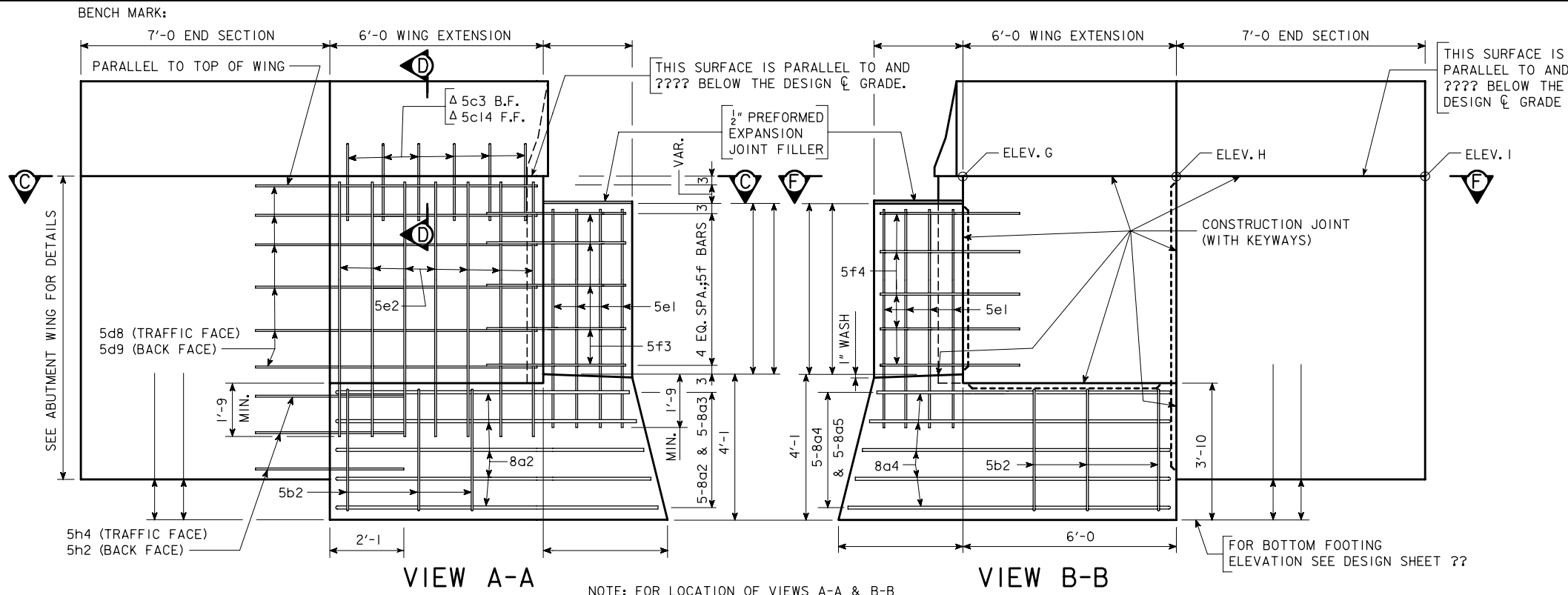
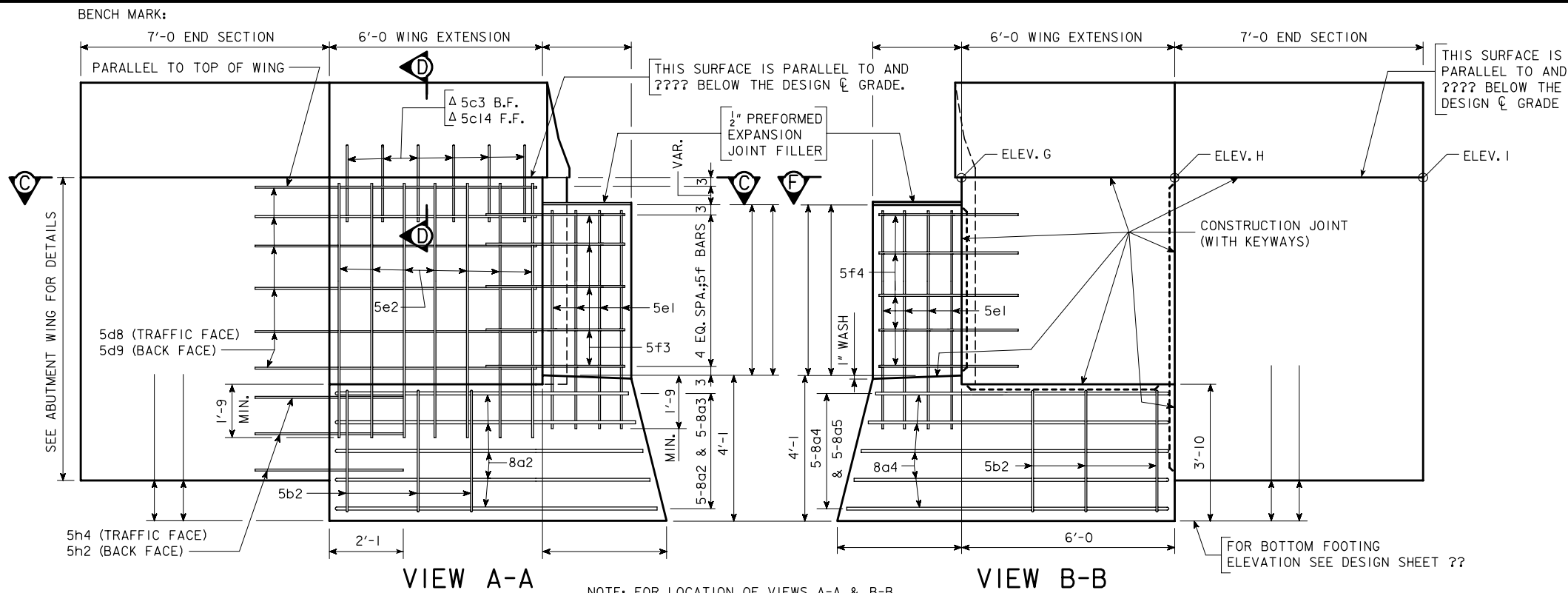


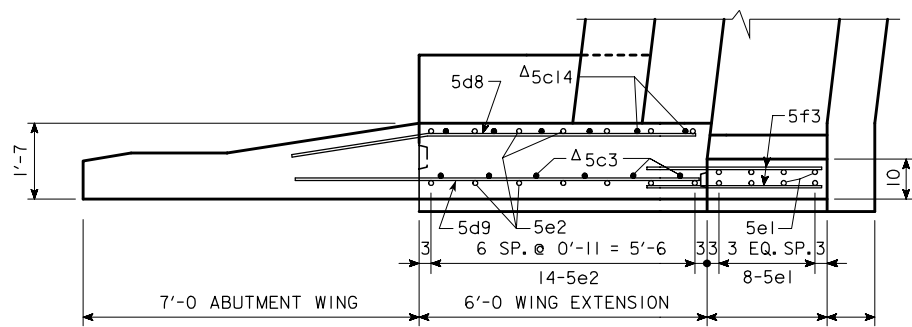
TABLE OF WINGWALL ELEVATIONS			
LOCATION	ELEV. G	ELEV. H	ELEV. I

Δ NOTE: SEE DESIGN SHEET ?? IN THESE PLANS FOR DETAILS OF BARRIER RAIL WING EXTENSIONS. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN THE SUPERSTRUCTURE QUANTITIES.

REVISED 03-08 - ABUTMENT WING SHAPE CHANGED. QUANTITIES, NOTES, BAR LIST & BENT BAR DETAILS MOVED TO ANOTHER STANDARD.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2103 - THIS SHEET REDRAWN 9-8-88.



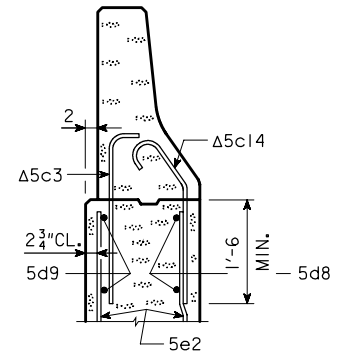
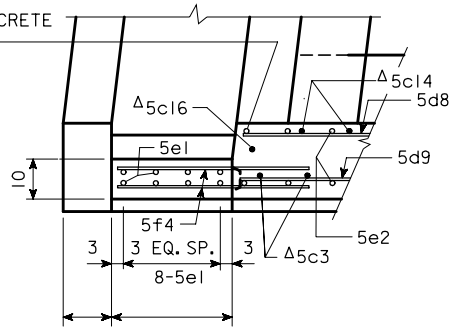
NOTE: FOR LOCATION OF VIEWS A-A & B-B
SEE DESIGN SHEET ??.



NOTE: BARRIER RAIL NOT SHOWN.

Δ NOTE: SEE DESIGN SHEET ?? IN
THESE PLANS FOR DETAILS OF
BARRIER RAIL WING EXTENSIONS.
REINFORCING BARS 5c3 AND 5c14
ARE INCLUDED IN THE SUPERSTRUCTURE
QUANTITIES.

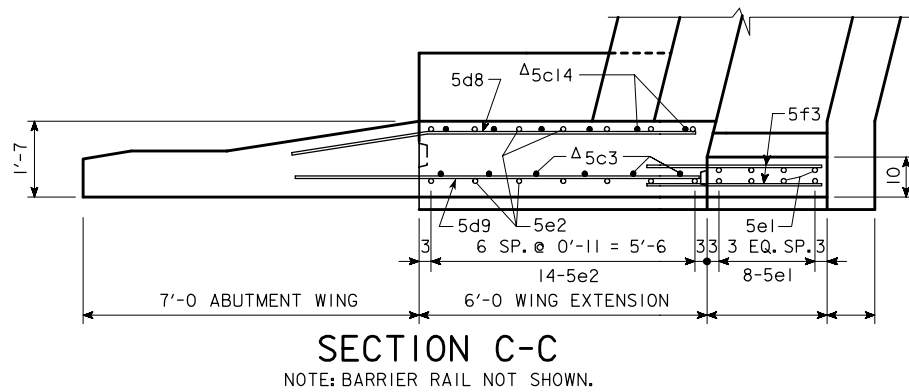
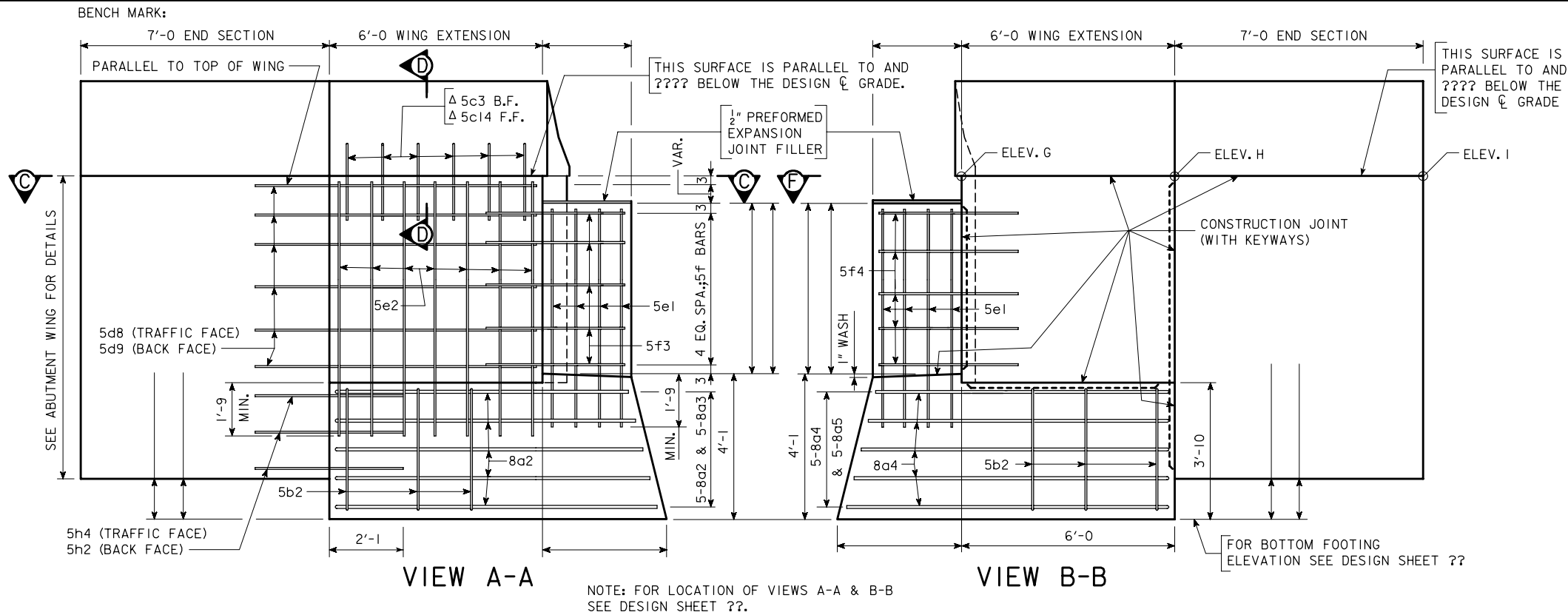
POSITION THIS 5e2 BAR 2"
CLEAR FROM FACE OF CONCRETE
TO ACCOMMODATE SKEW



PART
SECTION D-D

TABLE OF WINGWALL ELEVATIONS			
LOCATION	ELEV. G	ELEV. H	ELEV. I

REVISED 03-08 - ABUTMENT WING SHAPE CHANGED. QUANTITIES, NOTES, BAR LIST & BENT BAR DETAILS MOVED TO ANOTHER STANDARD.
ENGLISHSTUBABUTMENTBRIDGES.DGN 2104 - THIS SHEET REDRAWN 9-8-88.



Δ NOTE: SEE DESIGN SHEET ?? IN THESE PLANS FOR DETAILS OF BARRIER RAIL WING EXTENSIONS. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN THE SUPERSTRUCTURE QUANTITIES.

POSITION THIS 5e2 BAR 2" CLEAR FROM FACE OF CONCRETE TO ACCOMMODATE SKEW

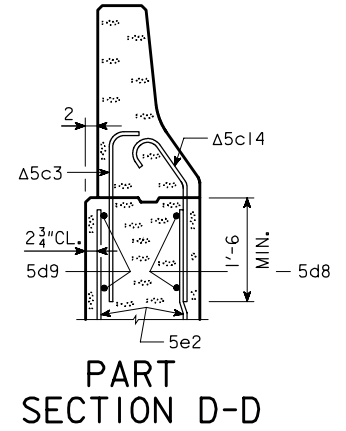
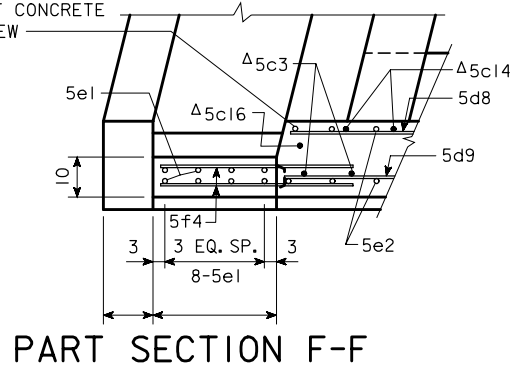


TABLE OF WINGWALL ELEVATIONS			
LOCATION	ELEV. G	ELEV. H	ELEV. I

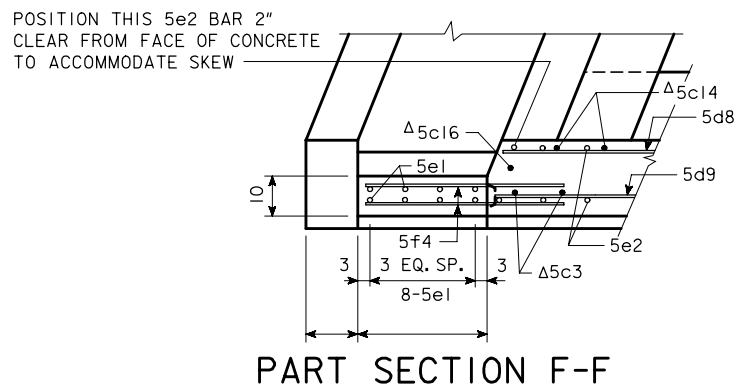
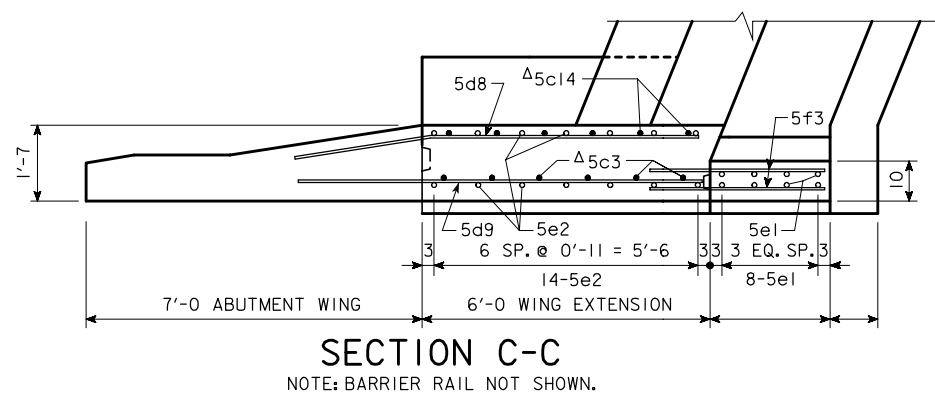
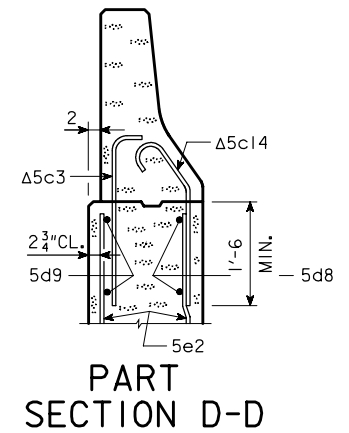
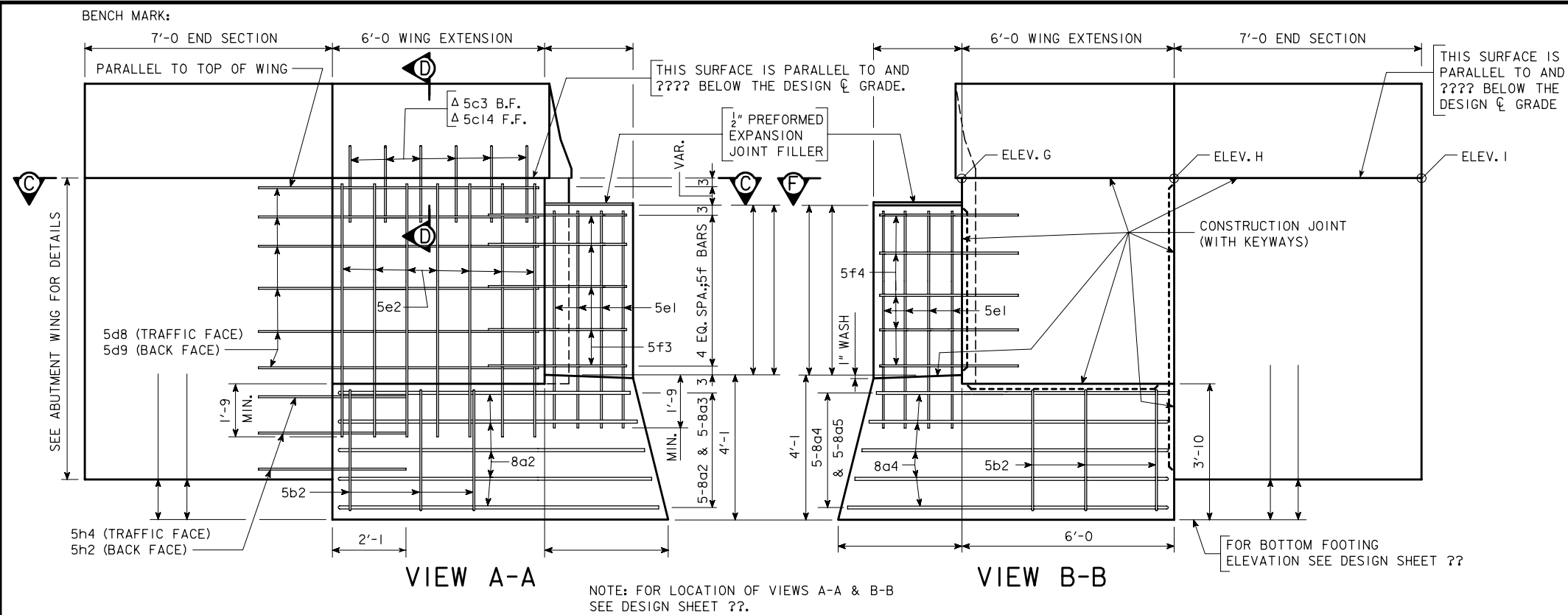


TABLE OF WINGWALL ELEVATIONS			
LOCATION	ELEV. G	ELEV. H	ELEV. I

Δ NOTE: SEE DESIGN SHEET ?? IN THESE PLANS FOR DETAILS OF BARRIER RAIL WING EXTENSIONS. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN THE SUPERSTRUCTURE QUANTITIES.

REVISED 07-08 - 5d8 & 5h4 BARS OFFSET DIMENSION WAS CHANGED.
ENGLISHSTUBABUTMENTBRIDGES.DGN - 2106 - THIS SHEET ISSUED 03-08.

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
THE MASKWALL IS TO BE POURED BEFORE THE SUPERSTRUCTURE SLAB IS POURED.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2x6's.

THE PORTION OF THE BACKWALL CONTAINING THE ABUTMENT ANCHORAGE OF THE EXPANSION DEVICE IS TO BE PLACED AFTER THE BRIDGE FLOOR IS PLACED.

CONCRETE SEALER IS TO BE APPLIED TO THE ABUTMENT BRIDGE SEAT IN ACCORDANCE WITH THE CURRENT IOWA D.O.T. STANDARD SPECIFICATIONS.

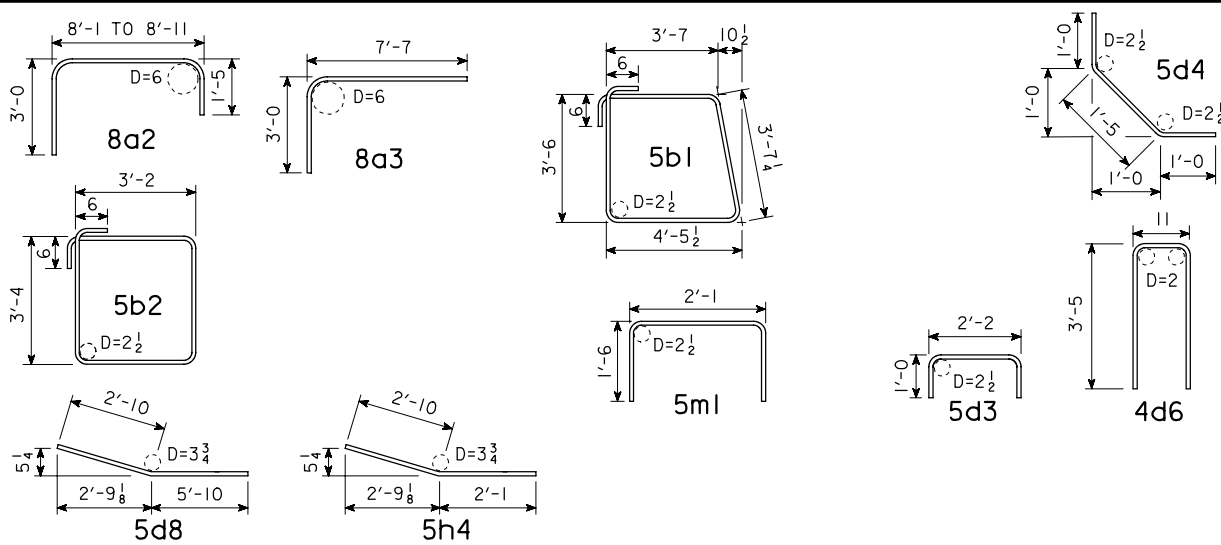
THE COST OF PREFORMED EXPANSION JOINT FILLER, AND COST OF FURNISHING AND PLACING CONCRETE SEALER IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".

PAVING NOTCH DOWELS SHALL BE DEFORMED BAR GRADE 60, TYPE 316 LN IN ACCORDANCE WITH ASTM A955/A955M-01. THE COST OF THE STAINLESS STEEL PAVING NOTCH DOWELS IS TO BE INCIDENTAL TO THE PRICE BID FOR "REINFORCING STEEL - EPOXY COATED". THE WEIGHT OF THE STAINLESS STEEL DOWELS IS TO BE INCLUDED WITH THE WEIGHT FOR EPOXY REINFORCING STEEL.

THE DESIGN BEARING FOR THE ABUTMENT PILES IS ?? TONS.

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIA

CONCRETE PLACEMENT QUANTITIES

LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ ??? C.Y. /ABUT.		
TOTAL (C.Y.)		

ESTIMATED QUANTITIES - BOTH ABUTMENTS

ITEM	UNIT	ABUT.	ABUT.	TOTAL
STRUCTURAL CONCRETE (BRIDGE)	C.Y.			
REINFORCING STEEL - EPOXY COATED	LB.			
CLASS 20 EXCAVATION	C.Y.			
PILING ???	LIN.FT.			

REINFORCING BAR LIST - ONE ABUTMENT

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
8a1	FOOTING LONGITUDINAL	—			
8a2	WING FOOTING	┐	10	VARIES	345
8a3	WING FOOTING	┐	10	10'-7	283
5b1	FOOTING HOOPS	⌈		16'-2	
5b2	WING FOOTING HOOPS	⌈	6	14'-0	88
6d1	BACKWALL VERTICAL B.F.				
5d2	BACKWALL VERTICAL F.F.				
5d3	PAVING NOTCH	┐		4'-2	
5d4	PAVING NOTCH	┐		3'-5	
4d6	BACKWALL VERTICAL HOOP	⌈		7'-9	
5d8	WING EXTENSION FF HORIZONTAL	┐	12	8'-8	108
5d9	WING EXTENSION BF HORIZONTAL	—	12	8'-8	108
5e1	MASKWALL VERTICAL	—	16		
5e2	WINGWALL VERTICAL	—	28		
5f3	MASKWALL HORIZONTAL	—	20	4'-3	89
5g1	BACKWALL LONGITUDINAL	—			
5g2	BACKWALL DOWELS	—	28	4'-5	129
5g3	PAVING NOTCH LONGITUDINAL	—			
5h2	WING TO FOOTING ANCHOR BFH	—	6	4'-11	31
5h4	WING TO FOOTING ANCHOR FFH	┐	6	4'-11	31
5m1	BEAM STEPS TRANSVERSE	┐		5'-1	
5n1	BEAM STEPS LONGITUDINAL	—		2'-8	
REINFORCING STEEL - EPOXY COATED - TOTAL (LBS.)					
5d5	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		3'-6	
STAINLESS STEEL - TOTAL (LBS.)					

EPOXY COATED BARS

S.S. BARS

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
THE MASKWALL IS TO BE POURED BEFORE THE SUPERSTRUCTURE SLAB IS POURED.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2x6's.

THE PORTION OF THE BACKWALL CONTAINING THE ABUTMENT ANCHORAGE OF THE EXPANSION DEVICE IS TO BE PLACED AFTER THE BRIDGE FLOOR IS PLACED.

CONCRETE SEALER IS TO BE APPLIED TO THE ABUTMENT BRIDGE SEAT IN ACCORDANCE WITH THE CURRENT IOWA D.O.T. STANDARD SPECIFICATIONS.

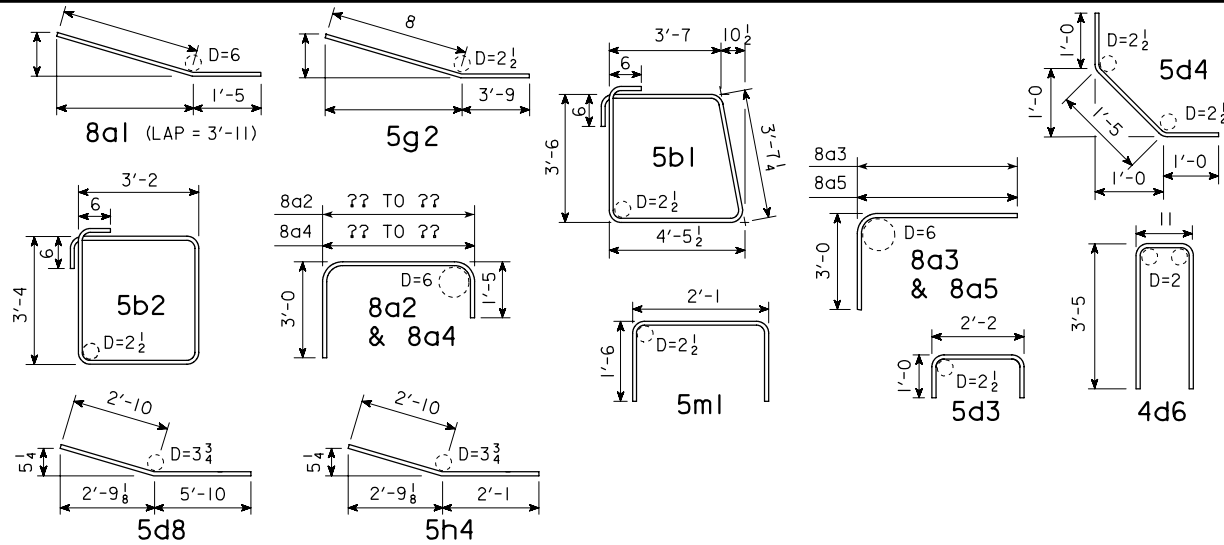
THE COST OF PREFORMED EXPANSION JOINT FILLER, AND COST OF FURNISHING AND PLACING CONCRETE SEALER IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".

PAVING NOTCH DOWELS SHALL BE DEFORMED BAR GRADE 60, TYPE 316 LN IN ACCORDANCE WITH ASTM A955/A955M-01. THE COST OF THE STAINLESS STEEL PAVING NOTCH DOWELS IS TO BE INCIDENTAL TO THE PRICE BID FOR "REINFORCING STEEL - EPOXY COATED". THE WEIGHT OF THE STAINLESS STEEL DOWELS IS TO BE INCLUDED WITH THE WEIGHT FOR EPOXY REINFORCING STEEL.

THE DESIGN BEARING FOR THE ABUTMENT PILES IS ?? TONS.

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIA

REINFORCING BAR LIST - ONE ABUTMENT

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
8a1	FOOTING LONGITUDINAL	—	26		
8a2	WING FOOTING	┌┐	5	VARIES	
8a3	WING FOOTING	┌┐	5		
8a4	WING FOOTING	┌┐	5	VARIES	
8a5	WING FOOTING	┌┐	5		
5b1	FOOTING HOOPS	⌈⌋		16'-2	
5b2	WING FOOTING HOOPS	⌈⌋	6	14'-0	88
6d1	BACKWALL VERTICAL B.F.				
5d2	BACKWALL VERTICAL F.F.				
5d3	PAVING NOTCH	┌┐		4'-2	
5d4	PAVING NOTCH	┌┐		3'-5	
4d6	BACKWALL VERTICAL HOOP	⌈⌋		7'-9	
5d8	WING EXTENSION FF HORIZONTAL	—	12	8'-8	108
5d9	WING EXTENSION BF HORIZONTAL	—	12	8'-8	108
5e1	MASKWALL VERTICAL	—	16		
5e2	WINGWALL VERTICAL	—	28		
5f3	MASKWALL HORIZONTAL	—	10		
5f4	MASKWALL HORIZONTAL	—	10		
5g1	BACKWALL LONGITUDINAL	—			
5g2	BACKWALL DOWELS	—	28	4'-5	129
5g3	PAVING NOTCH LONGITUDINAL	—			
5h2	WING TO FOOTING ANCHOR BFH	—	6	4'-11	31
5h4	WING TO FOOTING ANCHOR FFH	—	6	4'-11	31
5m1	BEAM STEPS TRANSVERSE	┌┐		5'-1	
5n1	BEAM STEPS LONGITUDINAL	—		2'-8	
REINFORCING STEEL - EPOXY COATED - TOTAL (LBS.)					
5d5	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		3'-6	
STAINLESS STEEL - TOTAL (LBS.)					

CONCRETE PLACEMENT QUANTITIES

LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ ??? C.Y. /ABUT.		
TOTAL (C.Y.)		

ESTIMATED QUANTITIES - BOTH ABUTMENTS

ITEM	UNIT	ABUT.	ABUT.	TOTAL
STRUCTURAL CONCRETE (BRIDGE)	C.Y.			
REINFORCING STEEL - EPOXY COATED	LB.			
CLASS 20 EXCAVATION	C.Y.			
PILING ???	LIN.FT.			

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

REVISED 07-08 - 5d8 & 5h4 BARS OFFSET DIMENSION WAS CHANGED.
ENGLISHSTUBABUTMENTBRIDGES.DGN - 2107 - THIS SHEET ISSUED 03-08.

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE S

NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIA

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
8a1	FOOTING LONGITUDINAL	—	26		
8a2	WING FOOTING	⌋⌋	5	VARIES	
8a3	WING FOOTING	⌋⌋	5		
8a4	WING FOOTING	⌋⌋	5	VARIES	
8a5	WING FOOTING	⌋⌋	5		
5b1	FOOTING HOOPS	⌋⌋		16'-2	
5b2	WING FOOTING HOOPS	⌋⌋	6	14'-0	88
6d1	BACKWALL VERTICAL B.F.	—			
5d2	BACKWALL VERTICAL F.F.	—			
5d3	PAVING NOTCH	⌋⌋		4'-2	
5d4	PAVING NOTCH	⌋⌋		3'-5	
4d6	BACKWALL VERTICAL HOOP	⌋⌋		7'-9	
5d8	WING EXTENSION FF HORIZONTAL	—	12	8'-8	108
5d9	WING EXTENSION BF HORIZONTAL	—	12	8'-8	108
5e1	MASKWALL VERTICAL	—	16		
5e2	WINGWALL VERTICAL	—	28		
5f3	MASKWALL HORIZONTAL	—	10		
5f4	MASKWALL HORIZONTAL	—	10		
5g1	BACKWALL LONGITUDINAL	—			
5g2	BACKWALL DOWELS	—	28	4'-5	129
5g3	PAVING NOTCH LONGITUDINAL	—			
5h2	WING TO FOOTING ANCHOR BFH	—	6	4'-11	31
5h4	WING TO FOOTING ANCHOR FFH	—	6	4'-11	31
5m1	BEAM STEPS TRANSVERSE	⌋⌋		5'-1	
5n1	BEAM STEPS LONGITUDINAL	—		2'-8	
REINFORCING STEEL - EPOXY COATED - TOTAL (LBS.)					
5d5	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		3'-6	
STAINLESS STEEL - TOTAL (LBS.)					

LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ ??? C.Y. /ABUT.		
TOTAL (C.Y.)		

[illegible]

DESIGN TEAM	"C or D" BEAM STUB ABUT. BAR LIST - 7°30' - 15° SKEW	STANDARD SHEET 2108	COUNTY	PROJECT NUMBER	SHEET NUMBER
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REVISED 07-08 - 5d8 & 5h4 BARS OFFSET DIMENSION WAS CHANGED.
ENGLISHSTUBABUTMENTBRIDGES.DGN - 2109 - THIS SHEET ISSUED 03-08.

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
THE MASKWALL IS TO BE POURED BEFORE THE SUPERSTRUCTURE SLAB IS POURED.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2x6's.

THE PORTION OF THE BACKWALL CONTAINING THE ABUTMENT ANCHORAGE OF THE EXPANSION DEVICE IS TO BE PLACED AFTER THE BRIDGE FLOOR IS PLACED.

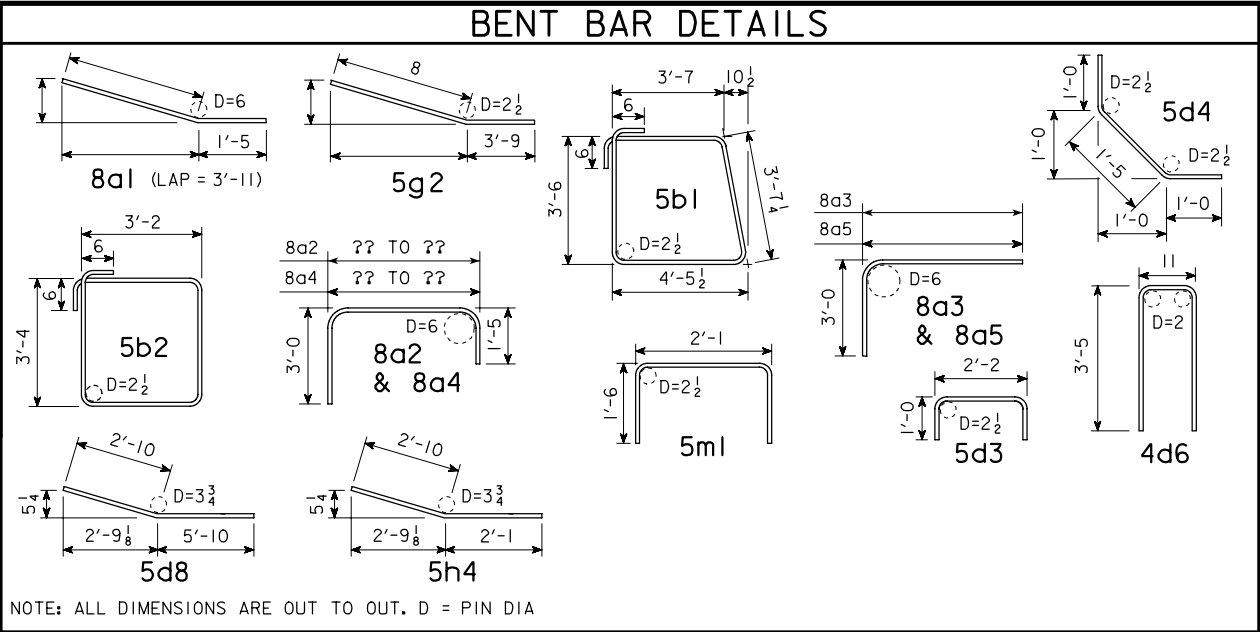
CONCRETE SEALER IS TO BE APPLIED TO THE ABUTMENT BRIDGE SEAT IN ACCORDANCE WITH THE CURRENT IOWA D.O.T. STANDARD SPECIFICATIONS.

THE COST OF PREFORMED EXPANSION JOINT FILLER, AND COST OF FURNISHING AND PLACING CONCRETE SEALER IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".

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THE DESIGN BEARING FOR THE ABUTMENT PILES IS ?? TONS.

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.



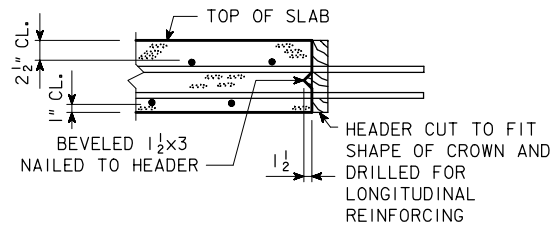
CONCRETE PLACEMENT QUANTITIES		
LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ ??? C.Y. /ABUT.		
TOTAL (C.Y.)		

ESTIMATED QUANTITIES - BOTH ABUTMENTS				
ITEM	UNIT	ABUT.	ABUT.	TOTAL
STRUCTURAL CONCRETE (BRIDGE)	C.Y.			
REINFORCING STEEL - EPOXY COATED	LB.			
CLASS 20 EXCAVATION	C.Y.			
PILING ???	LIN.FT.			

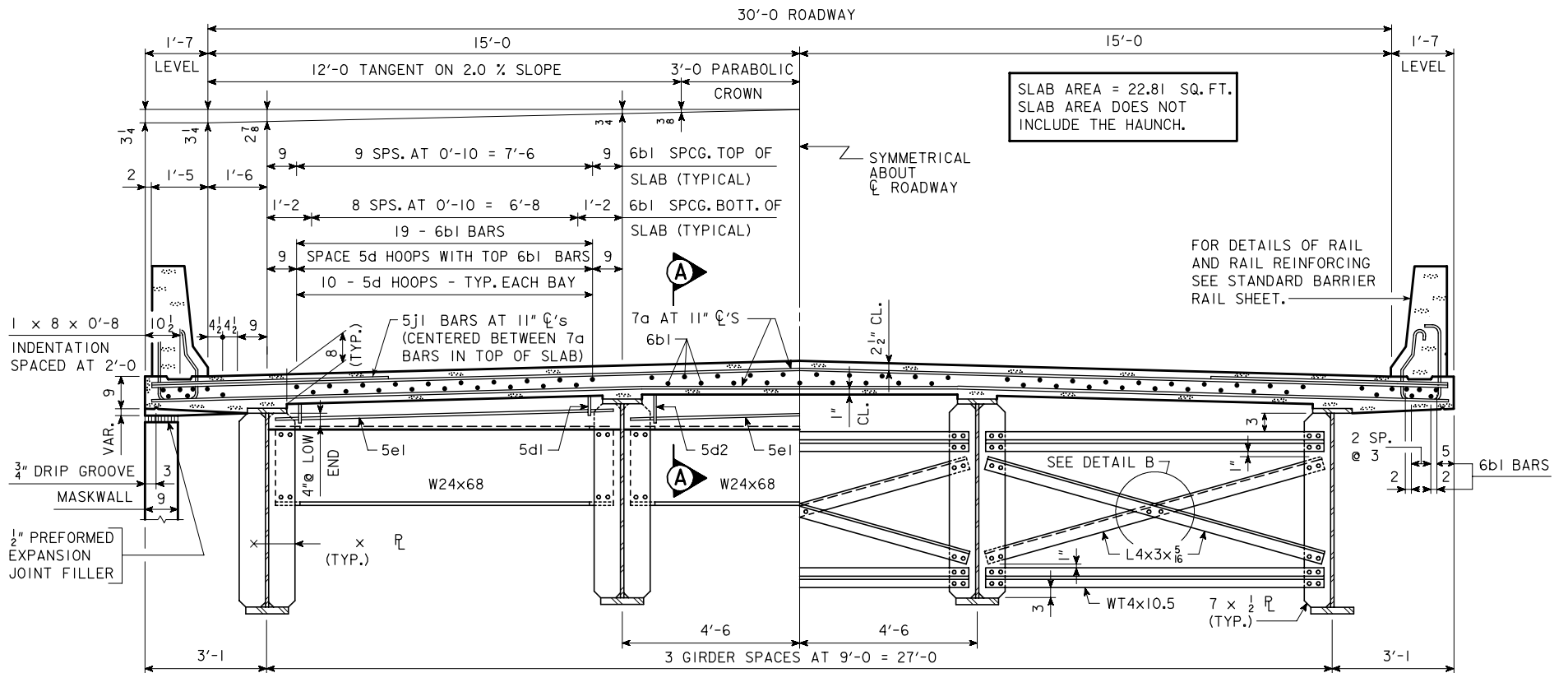
REINFORCING BAR LIST - ONE ABUTMENT					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
8a1	FOOTING LONGITUDINAL	—	26		
8a2	WING FOOTING	┌┐	5	VARIES	
8a3	WING FOOTING	┌┐	5		
8a4	WING FOOTING	┌┐	5	VARIES	
8a5	WING FOOTING	┌┐	5		
5b1	FOOTING HOOPS	⌈⌋		16'-2	
5b2	WING FOOTING HOOPS	⌈⌋	6	14'-0	88
6d1	BACKWALL VERTICAL B.F.				
5d2	BACKWALL VERTICAL F.F.				
5d3	PAVING NOTCH	┌┐		4'-2	
5d4	PAVING NOTCH	┌┐		3'-5	
4d6	BACKWALL VERTICAL HOOP	⌈⌋		7'-9	
5d8	WING EXTENSION FF HORIZONTAL	└┘	12	8'-8	108
5d9	WING EXTENSION BF HORIZONTAL	—	12	8'-8	108
5e1	MASKWALL VERTICAL	—	16		
5e2	WINGWALL VERTICAL	—	28		
5f3	MASKWALL HORIZONTAL	—	10		
5f4	MASKWALL HORIZONTAL	—	10		
5g1	BACKWALL LONGITUDINAL				
5g2	BACKWALL DOWELS	—	28	4'-5	129
5g3	PAVING NOTCH LONGITUDINAL	—			
5h2	WING TO FOOTING ANCHOR BFH	—	6	4'-11	31
5h4	WING TO FOOTING ANCHOR FFH	└┘	6	4'-11	31
5m1	BEAM STEPS TRANSVERSE	┌┐		5'-1	
5n1	BEAM STEPS LONGITUDINAL	—		2'-8	
	REINFORCING STEEL - EPOXY COATED - TOTAL (LBS.)				
5d5	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		3'-6	
	STAINLESS STEEL - TOTAL (LBS.)				

EPOXY COATED BARS

S.S. BARS



TRANSVERSE SLAB CONSTRUCTION JOINT



SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES $\frac{1}{2}$ " INTEGRAL WEARING SURFACE.

FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE GIRDERS.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND $2\frac{1}{2}$ " CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB.

TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0" CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0" APART.

ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH TENSILE STRENGTH BOLTS". UNLESS OTHERWISE NOTED, ALL OPEN HOLES ARE TO BE $\frac{15}{16}$ " ϕ AND ALL BOLTS ARE TO BE $\frac{7}{8}$ " ϕ .

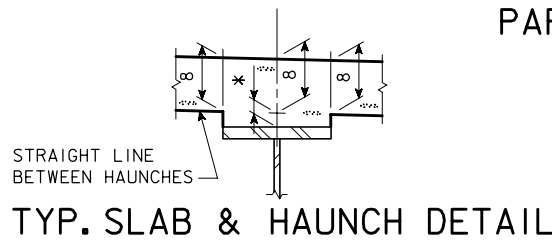
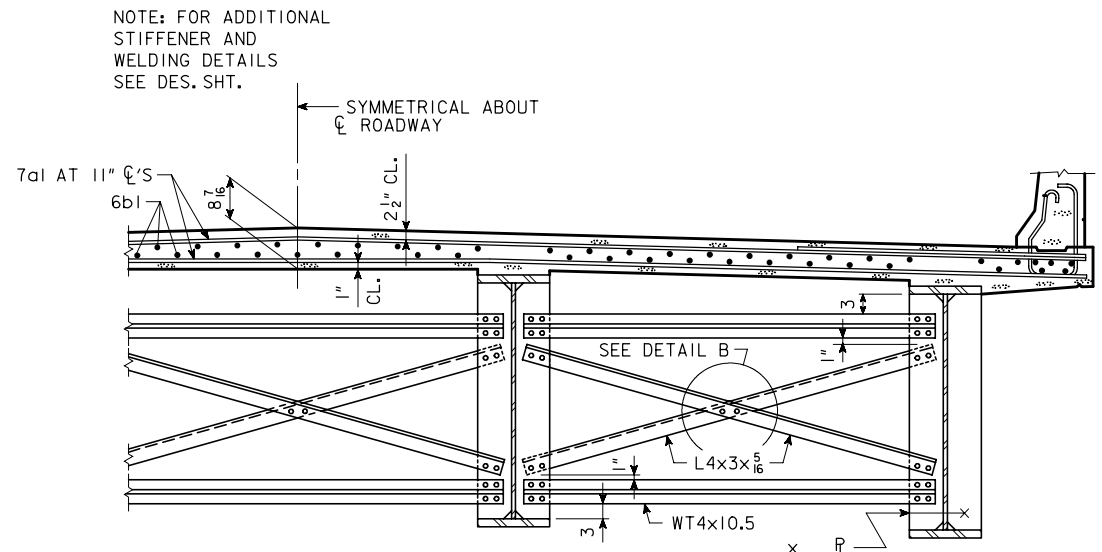
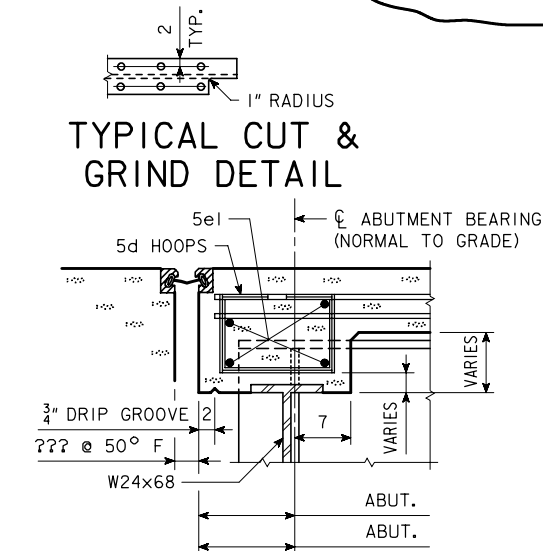
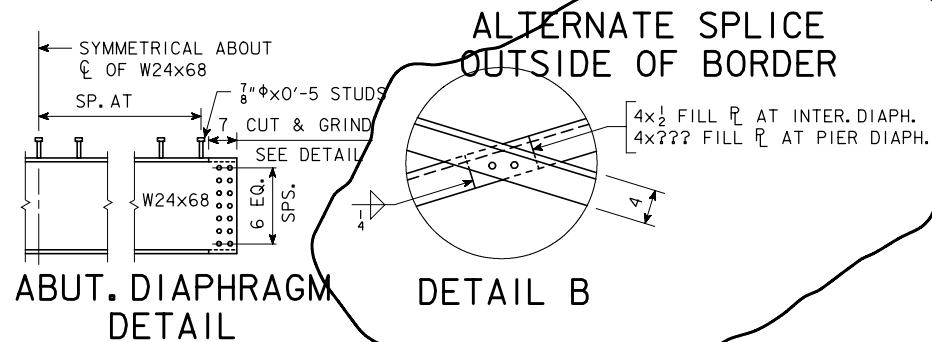
BOTTOM FLANGES ARE TO BE PERPENDICULAR TO WEBS AT THE REACTION POINTS.

FILL \bar{r} THICKNESSES SHOWN ON PLANS ARE BASED ON NOMINAL GIRDER DIMENSIONS. THESE THICKNESSES ARE TO BE VERIFIED OR ADJUSTED DURING FABRICATION TO SECURE A CLOSE FIT. EACH FILL PLATE SHALL FIT TO THE NEAREST $\frac{1}{16}$ " IN THICKNESS AND SINGLE PLATES ARE REQUIRED AT EACH FILL LOCATION. GIRDERS ARE TO BE TRULY SQUARE AT SPLICE POINTS WITH FLANGES PERPENDICULAR TO WEBS.

THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS. ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.

MAGNETIC PARTICLE INSPECTION OF WELDS, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, WILL BE REQUIRED.

SHOP WELDED FLANGE SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER, 6 INCHES FROM A WEB SPLICE, AND 4 INCHES FROM A SHEAR CONNECTOR. WEB SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER. SPLICES SHALL NOT INTERFERE WITH ANY OTHER BRIDGE COMPONENTS. ALL SHOP WELDED BUTT SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBJECT TO APPROVAL BY THE ENGINEER.

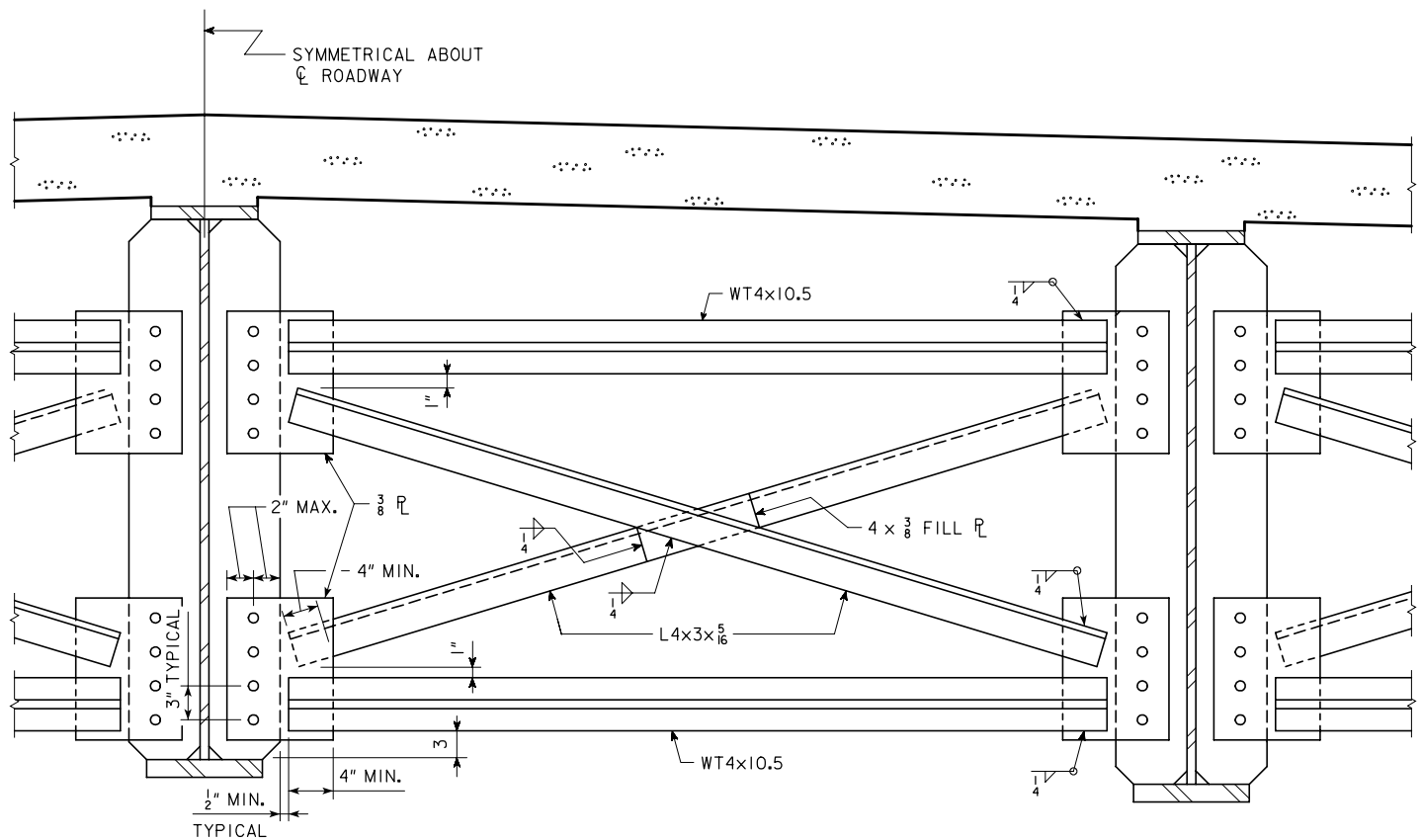


* CONCRETE HAUNCH DIMENSION MEASURED BETWEEN BOTTOM OF SLAB AND TOP OF TOP FLANGE PLATE AS SHOWN ON THE "THEORETICAL CONCRETE HAUNCH DIAGRAM" SHOWN ELSEWHERE ON THESE PLANS.

THE MAXIMUM EMBEDMENT OF THE EDGE OF THE TOP FLANGE IN THE SLAB SHALL BE $\frac{1}{2}$ INCH. SHEAR STUDS ARE TO HAVE A MINIMUM PENETRATION OF 2 INCHES INTO THE SLAB AND BE AT LEAST $2\frac{1}{2}$ INCHES CLEAR OF THE TOP OF THE SLAB. THESE REQUIREMENTS WERE USED IN SETTING THE MAXIMUM AND MINIMUM ALLOWABLE FIELD HAUNCH VALUES SHOWN IN THE "MISCELLANEOUS DATA TABLE" SHOWN ELSEWHERE ON THESE PLANS.

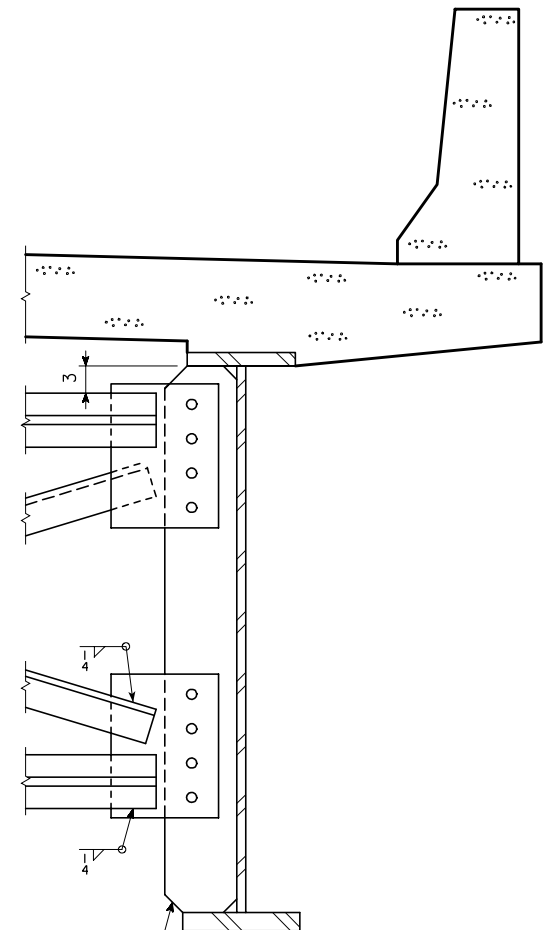
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. _____ OF _____ FILE NO. _____ DESIGN NO. _____

REVISION 05-09 - THE TEMPORARY SLAB OVERHANG BRACKET DETAIL WITH NOTES WAS ADDED.
ENGLISHSTUBBRIDGES.DGN - 4305A THIS SHEET ISSUED 04-07.

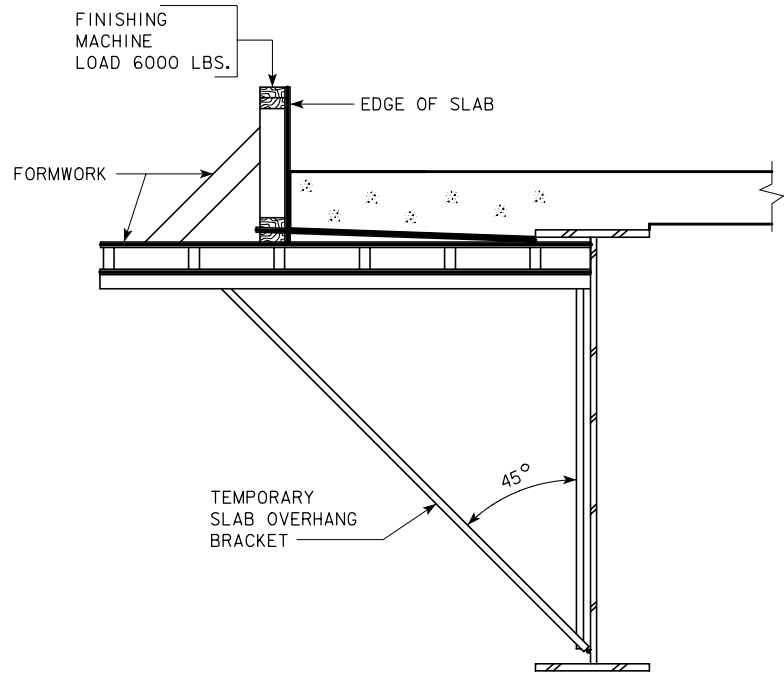


ALTERNATE INTERMEDIATE DIAPHRAGM PART SECTION THRU SLAB
(SHOWING ONE DIAPHRAGM BETWEEN GIRDERS)

NOTE:
THIS CANNOT BE WELDED FROM ONE SIDE. CROSS FRAME
MUST BE TURNED OVER TO ADD SECOND ANGLE.



SEE HALF SECTIONS NEAR PIER AND
INTERMEDIATE DIAPHRAGM FOR
STIFFENER PLATE SIZE



TEMPORARY SLAB
OVERHANG BRACKET DETAIL

OVERHANG BRACKET NOTES:
A MAXIMUM FINISHING MACHINE LOAD AND THE ANGLE OF THE
DIAGONAL MEMBER OF THE OVERHANG BRACKET SHOWN WERE
ASSUMED BY THE DESIGNER. THESE ASSUMPTIONS, IN ADDITION
TO OTHER CONSTRUCTION LOADINGS, WERE USED TO CHECK THE
STRENGTH OF THE EXTERIOR GIRDER DURING CRITICAL STAGES
OF CONSTRUCTION. IF THE FINISHING MACHINE LOAD OR ANGLE
OF THE DIAGONAL MEMBER OF THE OVERHANG BRACKET DEVIATE
SIGNIFICANTLY FROM VALUES SHOWN, THE CONTRACTOR SHALL
SUBMIT TO THE ENGINEER THIS INFORMATION ON PROPOSED
CONSTRUCTION EQUIPMENT TO BE USED.
IF THE VERTICAL HEIGHT OF THE OVERHANG BRACKET IS
ADJUSTABLE, THE BASE OF THE BRACKET IS TO BE LOCATED
AS CLOSE AS POSSIBLE TO THE BOTTOM FLANGE OF THE GIRDER.

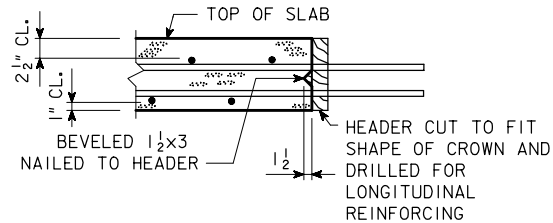
ALTERNATE INTERMEDIATE DIAPHRAGM NOTES:

ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH TENSILE
STRENGTH BOLTS". UNLESS OTHERWISE NOTED, ALL OPEN HOLES ARE TO BE
15/16" ϕ AND ALL BOLTS ARE TO BE 7/8" ϕ .
THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS.
ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.
MAGNETIC PARTICLE INSPECTION OF WELDS, IN ACCORDANCE WITH THE
STANDARD SPECIFICATIONS, WILL BE REQUIRED.
STRUCTURAL STEEL QUANTITIES ARE BASED ON THE INTERMEDIATE
DIAPHRAGM SHOWN ON TYPICAL CROSS SECTION ELSEWHERE IN THESE
PLANS. NO ADJUSTMENT TO QUANTITIES WILL BE MADE IF THE CONTRACTOR
USES THIS ALTERNATE INTERMEDIATE DIAPHRAGM DETAIL.

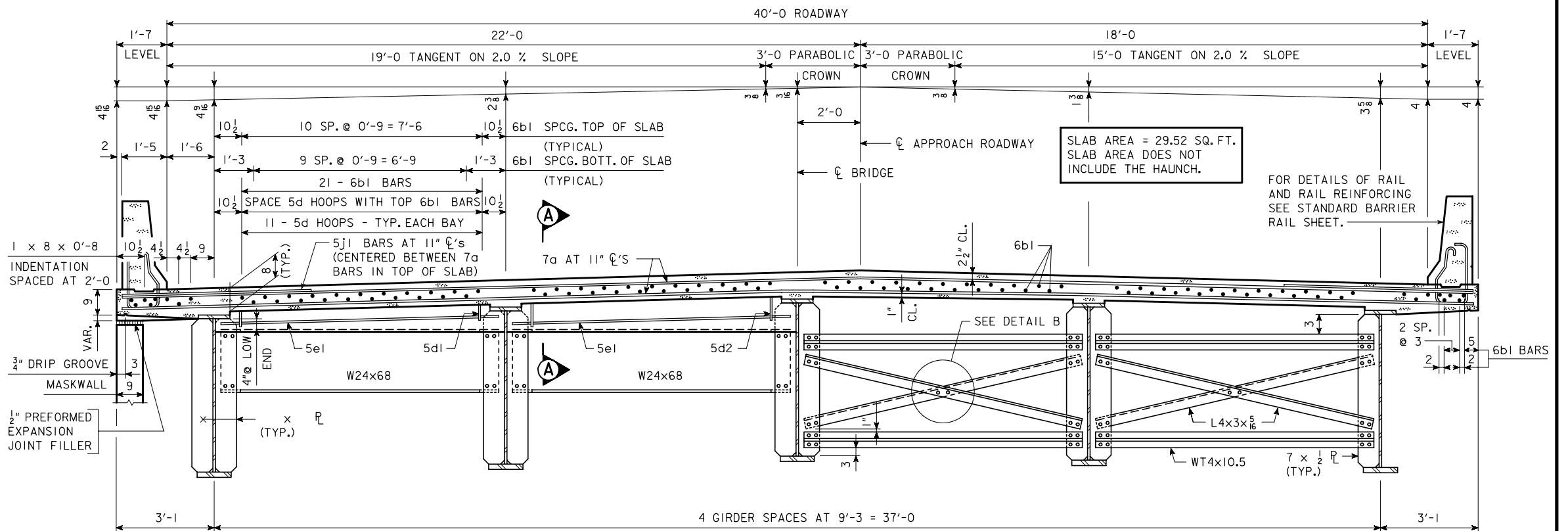
ALT. DIAPH. & TEMP. OVERHANG BRACKET

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

DESIGN TEAM	TEMP. OVERHANG BRACKET & ALT. INTERM. DIAPH. FOR WELDED GIRDER BRIDGES - LRFD DESIGN	STANDARD SHEET 4305A	COUNTY	PROJECT NUMBER	SHEET NUMBER
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TRANSVERSE SLAB CONSTRUCTION JOINT



SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES $\frac{1}{2}$ " INTEGRAL WEARING SURFACE.

FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE GIRDERS.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND $2\frac{1}{2}$ " CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0" CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0" APART.

TRANSVERSE SLAB REINFORCING MAY BE SPLICED WITH ONE LAP LOCATED AS FOLLOWS:

- TOP BAR - LAP MIDWAY BETWEEN BEAMS (MIN. LAP = 3'-3").
- BOTTOM BARS - LAP OVER BEAMS (MIN. LAP = 3'-3").

PAYMENT FOR REINFORCING BARS SHALL BE BASED ON NO SPLICES, AND NO ALLOWANCE SHALL BE MADE FOR THE ADDITIONAL LENGTH OF BAR REQUIRED FOR THE USE OF SPLICES.

ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH STRENGTH BOLTS". UNLESS OTHERWISE NOTED, ALL OPEN HOLES ARE TO BE $\frac{5}{16}$ " ϕ AND ALL BOLTS ARE TO BE $\frac{7}{8}$ " ϕ .

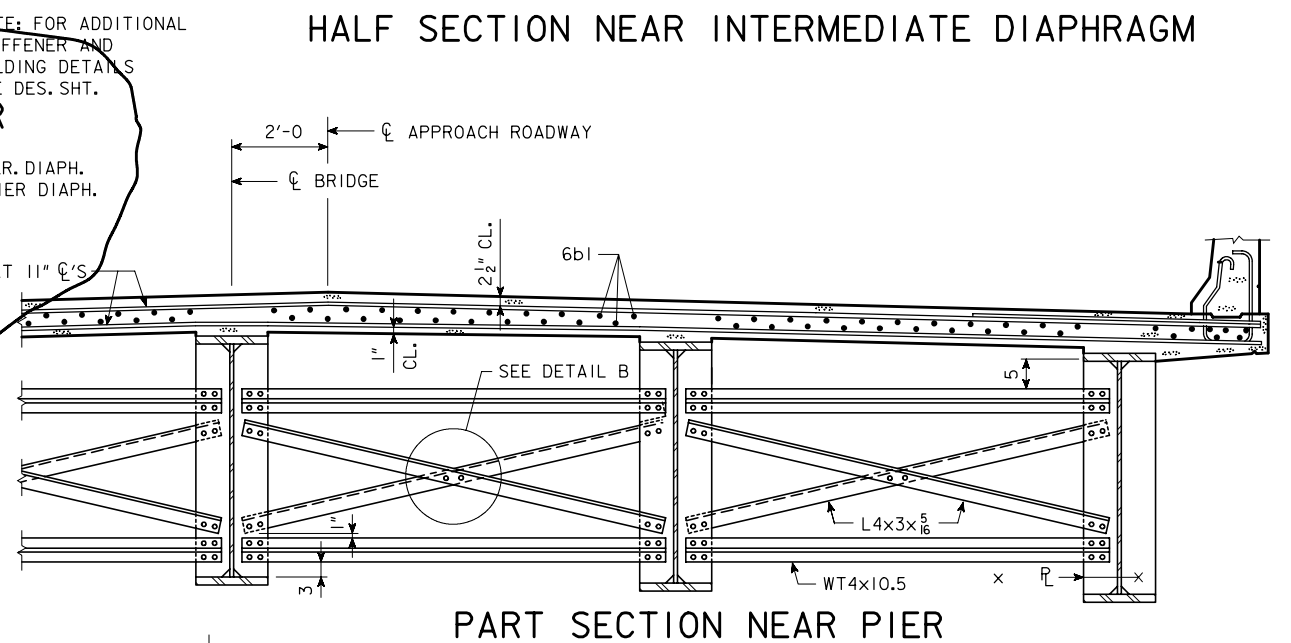
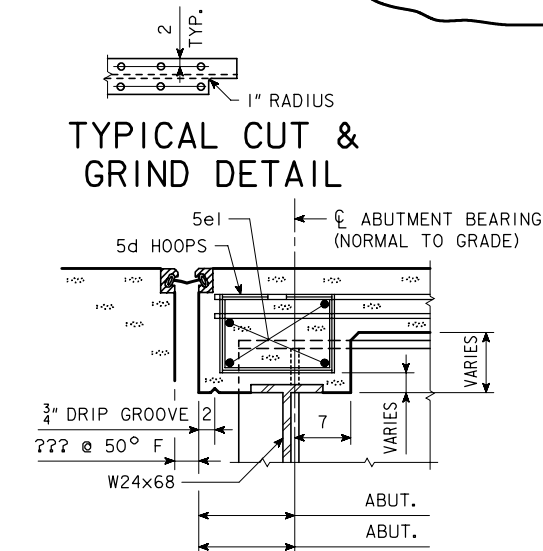
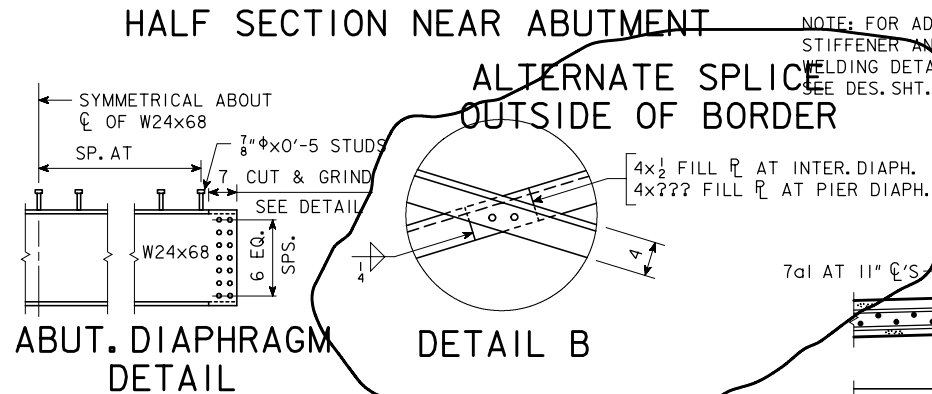
BOTTOM FLANGES ARE TO BE PERPENDICULAR TO WEBS AT THE REACTION POINTS.

FILL PLATE THICKNESSES SHOWN ON PLANS ARE BASED ON NOMINAL GIRDER DIMENSIONS. THESE THICKNESSES ARE TO BE VERIFIED OR ADJUSTED DURING FABRICATION TO SECURE A CLOSE FIT. EACH FILL PLATE SHALL FIT TO THE NEAREST $\frac{1}{16}$ " IN THICKNESS AND SINGLE PLATES ARE REQUIRED AT EACH FILL LOCATION. GIRDERS ARE TO BE TRULY SQUARE AT SPLICE POINTS WITH FLANGES PERPENDICULAR TO WEBS.

THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS. ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.

MAGNETIC PARTICLE INSPECTION OF WELDS, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, WILL BE REQUIRED.

SHOP WELDED FLANGE SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER, 6 INCHES FROM A WEB SPLICE, AND 4 INCHES FROM A SHEAR CONNECTOR. WEB SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER. SPLICES SHALL NOT INTERFERE WITH ANY OTHER BRIDGE COMPONENTS. ALL SHOP WELDED BUTT SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBJECT TO APPROVAL BY THE ENGINEER.

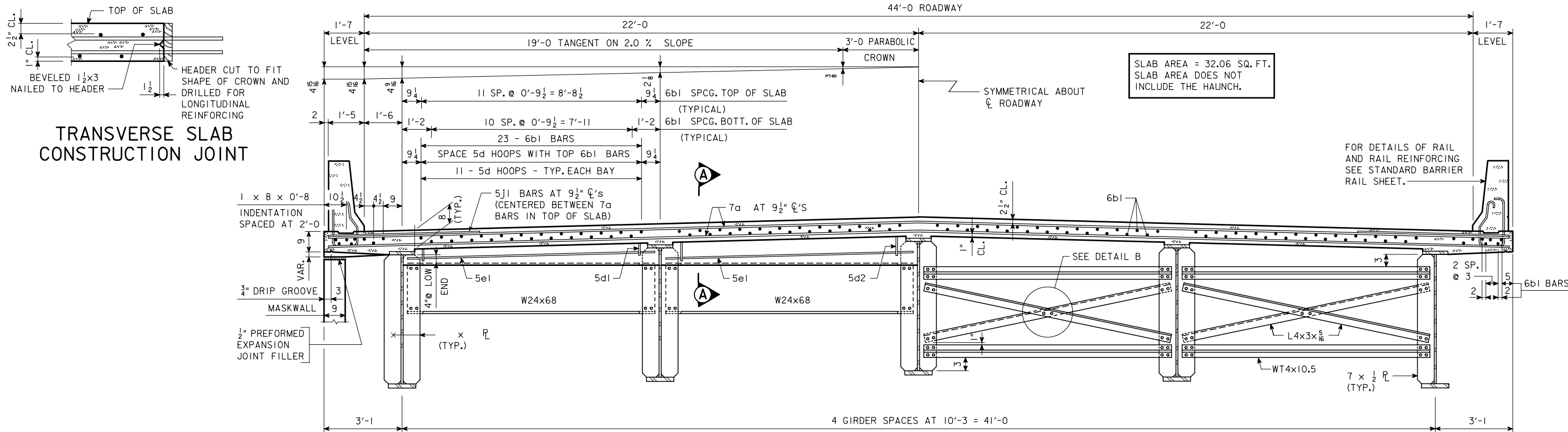


TYP. SLAB & HAUNCH DETAIL

* CONCRETE HAUNCH DIMENSION MEASURED BETWEEN BOTTOM OF SLAB AND TOP OF TOP FLANGE PLATE AS SHOWN ON THE "THEORETICAL CONCRETE HAUNCH DIAGRAM" SHOWN ELSEWHERE ON THESE PLANS.

THE MAXIMUM EMBEDMENT OF THE EDGE OF THE TOP FLANGE IN THE SLAB SHALL BE $\frac{1}{2}$ INCH. SHEAR STUDS ARE TO HAVE A MINIMUM PENETRATION OF 2 INCHES INTO THE SLAB AND BE AT LEAST $2\frac{1}{2}$ INCHES CLEAR OF THE TOP OF THE SLAB. THESE REQUIREMENTS WERE USED IN SETTING THE MAXIMUM AND MINIMUM ALLOWABLE FIELD HAUNCH VALUES SHOWN IN THE "MISCELLANEOUS DATA TABLE" SHOWN ELSEWHERE ON THESE PLANS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____



SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES 1/2" INTEGRAL WEARING SURFACE.

FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE GIRDERS.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 2 1/2" CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB.

TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0" CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0" APART.

TRANSVERSE SLAB REINFORCING MAY BE SPICED WITH ONE LAP LOCATED AS FOLLOWS:

TOP BAR - LAP MIDWAY BETWEEN BEAMS (MIN. LAP = 3'-3").

BOTTOM BARS - LAP OVER BEAMS (MIN. LAP = 3'-3").

PAYMENT FOR REINFORCING BARS SHALL BE BASED ON NO SPICES, AND NO ALLOWANCE SHALL BE MADE FOR THE ADDITIONAL LENGTH OF BAR REQUIRED FOR THE USE OF SPICES.

ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH STRENGTH BOLTS". UNLESS OTHERWISE NOTED, ALL OPEN HOLES ARE TO BE 1 5/8" AND ALL BOLTS ARE TO BE 7/8".

BOTTOM FLANGES ARE TO BE PERPENDICULAR TO WEBS AT THE REACTION POINTS.

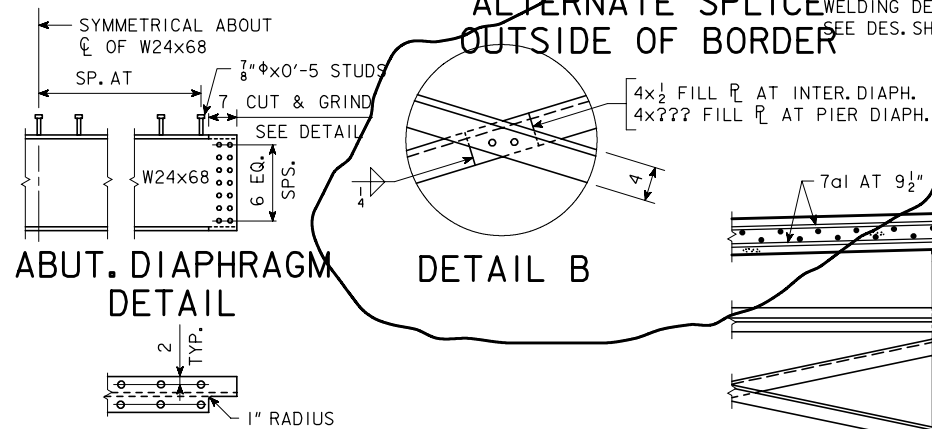
FILL PLATE THICKNESSES SHOWN ON PLANS ARE BASED ON NOMINAL GIRDER DIMENSIONS. THESE THICKNESSES ARE TO BE VERIFIED OR ADJUSTED DURING FABRICATION TO SECURE A CLOSE FIT. EACH FILL PLATE SHALL FIT TO THE NEAREST 1/16" IN THICKNESS AND SINGLE PLATES ARE REQUIRED AT EACH FILL LOCATION. GIRDERS ARE TO BE TRULY SQUARE AT SPLICE POINTS WITH FLANGES PERPENDICULAR TO WEBS.

THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS. ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.

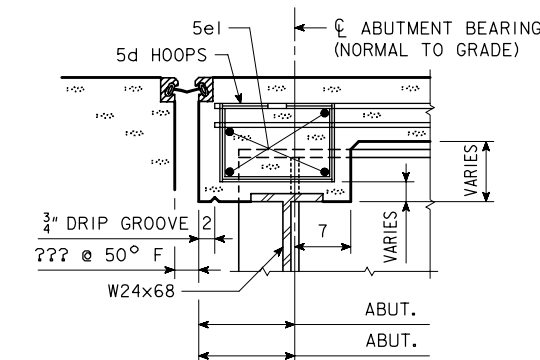
MAGNETIC PARTICLE INSPECTION OF WELDS, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, WILL BE REQUIRED.

SHOP WELDED FLANGE SPICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER, 6 INCHES FROM A WEB SPLICE, AND 4 INCHES FROM A SHEAR CONNECTOR. WEB SPICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER. SPICES SHALL NOT INTERFERE WITH ANY OTHER BRIDGE COMPONENTS. ALL SHOP WELDED BUTT SPICES SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBJECT TO APPROVAL BY THE ENGINEER.

HALF SECTION NEAR ABUTMENT
ALTERNATE SPLICE
OUTSIDE OF BORDER



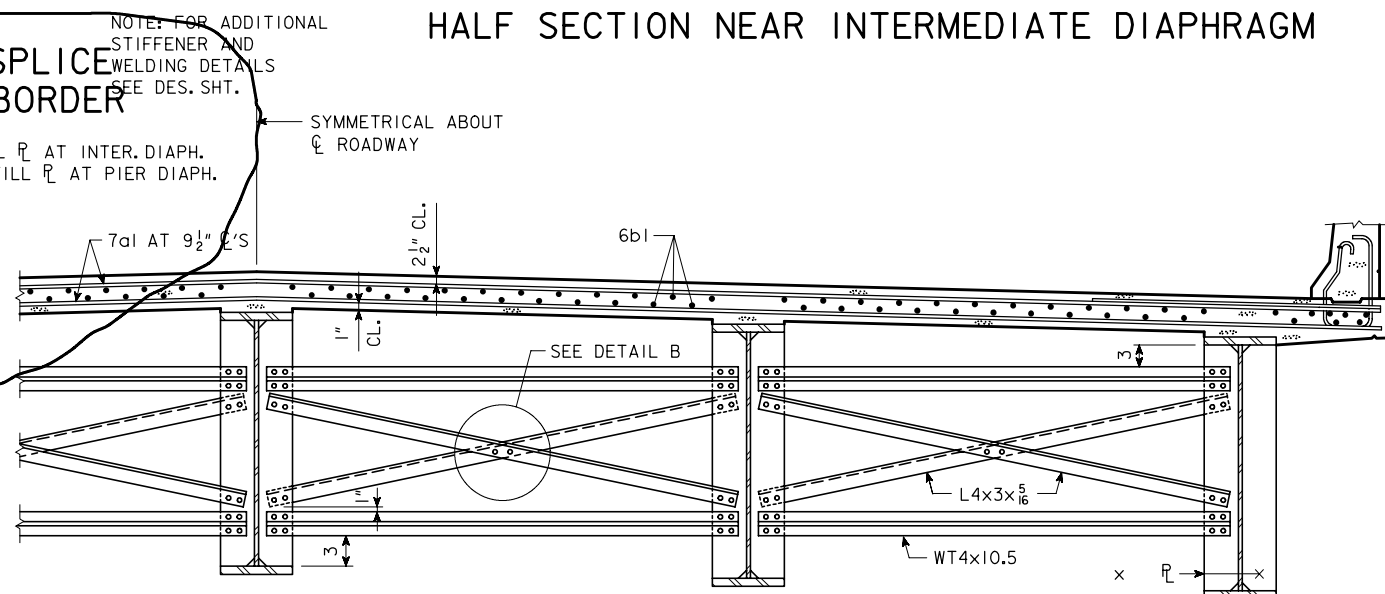
TYPICAL CUT & GRIND DETAIL



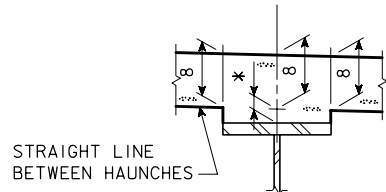
SECTION A-A
(NORMAL TO ABUTMENT)

NOTE: TRANSVERSE SLAB REINFORCING NOT SHOWN. PLACE 5d HOOPS PARALLEL TO LONGIT. 6b1 BARS.

HALF SECTION NEAR INTERMEDIATE DIAPHRAGM



PART SECTION NEAR PIER



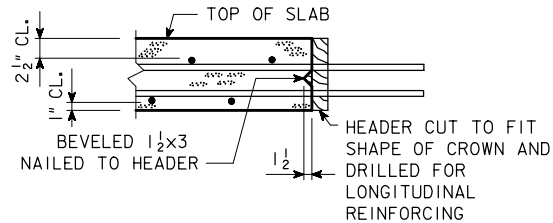
TYP. SLAB & HAUNCH DETAIL

* CONCRETE HAUNCH DIMENSION MEASURED BETWEEN BOTTOM OF SLAB AND TOP OF TOP FLANGE PLATE AS SHOWN ON THE "THEORETICAL CONCRETE HAUNCH DIAGRAM" SHOWN ELSEWHERE ON THESE PLANS.

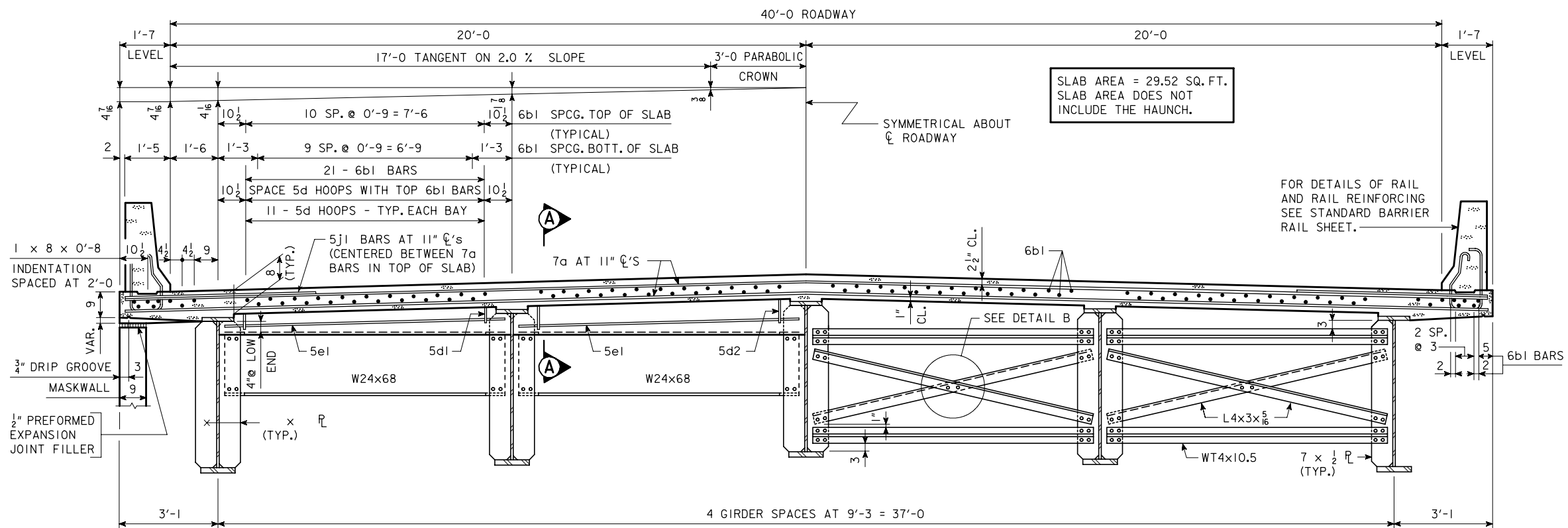
THE MAXIMUM EMBEDMENT OF THE EDGE OF THE TOP FLANGE IN THE SLAB SHALL BE 1/2 INCH. SHEAR STUDS ARE TO HAVE A MINIMUM PENETRATION OF 2 INCHES INTO THE SLAB AND BE AT LEAST 2 1/2 INCHES CLEAR OF THE TOP OF THE SLAB. THESE REQUIREMENTS WERE USED IN SETTING THE MAXIMUM AND MINIMUM ALLOWABLE FIELD HAUNCH VALUES SHOWN IN THE "MISCELLANEOUS DATA TABLE" SHOWN ELSEWHERE ON THESE PLANS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

REVISED 09-07 - ADDED SHOP WELDED FLANGE SPICES NOTE.
ENGLISHSTUBBRIDGES.DGN - 4309 STANDARD LRFD DESIGN ISSUED ON 04-07.



TRANSVERSE SLAB CONSTRUCTION JOINT



HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR INTERMEDIATE DIAPHRAGM

SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES $\frac{1}{2}$ " INTEGRAL WEARING SURFACE.

FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE GIRDERS.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND $2\frac{1}{2}$ " CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB.

TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0" CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0" APART.

TRANSVERSE SLAB REINFORCING MAY BE SPLICED WITH ONE LAP LOCATED AS FOLLOWS:

- TOP BAR - LAP MIDWAY BETWEEN BEAMS (MIN. LAP = 3'-3").
- BOTTOM BARS - LAP OVER BEAMS (MIN. LAP = 3'-3").

PAYMENT FOR REINFORCING BARS SHALL BE BASED ON NO SPLICES, AND NO ALLOWANCE SHALL BE MADE FOR THE ADDITIONAL LENGTH OF BAR REQUIRED FOR THE USE OF SPLICES.

ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH STRENGTH BOLTS". UNLESS OTHERWISE NOTED, ALL OPEN HOLES ARE TO BE $\frac{5}{16}$ " ϕ AND ALL BOLTS ARE TO BE $\frac{7}{8}$ " ϕ .

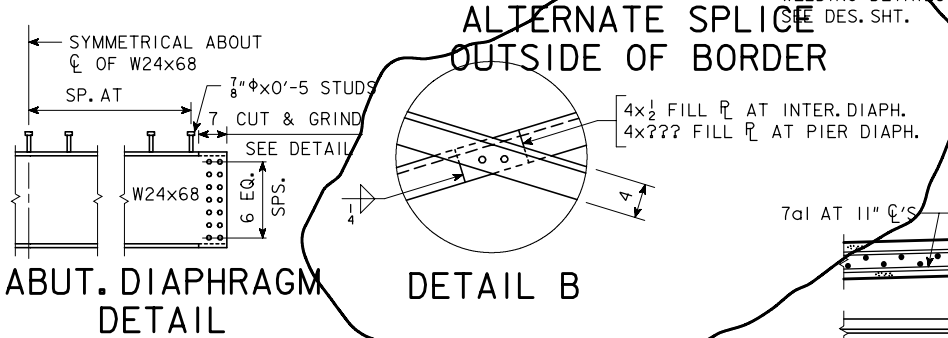
BOTTOM FLANGES ARE TO BE PERPENDICULAR TO WEBS AT THE REACTION POINTS.

FILL PLATE THICKNESSES SHOWN ON PLANS ARE BASED ON NOMINAL GIRDER DIMENSIONS. THESE THICKNESSES ARE TO BE VERIFIED OR ADJUSTED DURING FABRICATION TO SECURE A CLOSE FIT. EACH FILL PLATE SHALL FIT TO THE NEAREST $\frac{1}{16}$ " IN THICKNESS AND SINGLE PLATES ARE REQUIRED AT EACH FILL LOCATION. GIRDERS ARE TO BE TRULY SQUARE AT SPLICE POINTS WITH FLANGES PERPENDICULAR TO WEBS.

THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS. ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.

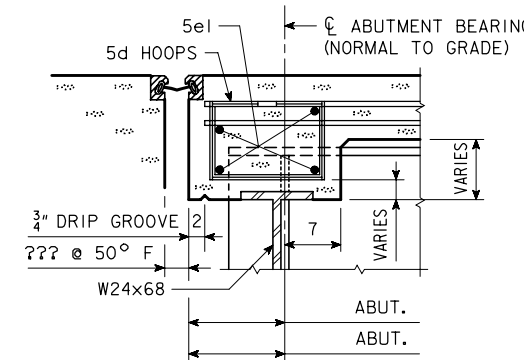
MAGNETIC PARTICLE INSPECTION OF WELDS, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, WILL BE REQUIRED.

SHOP WELDED FLANGE SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER, 6 INCHES FROM A WEB SPLICE, AND 4 INCHES FROM A SHEAR CONNECTOR. WEB SPLICES SHALL BE A MINIMUM OF 6 INCHES FROM A STIFFENER. SPLICES SHALL NOT INTERFERE WITH ANY OTHER BRIDGE COMPONENTS. ALL SHOP WELDED BUTT SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBJECT TO APPROVAL BY THE ENGINEER.



ABUT. DIAPHRAGM DETAIL

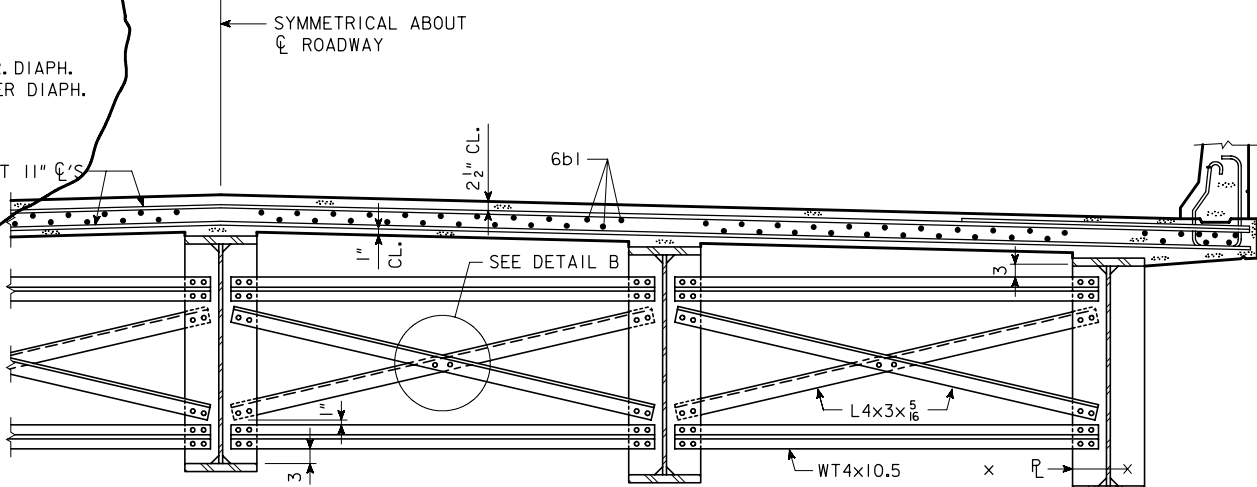
TYPICAL CUT & GRIND DETAIL



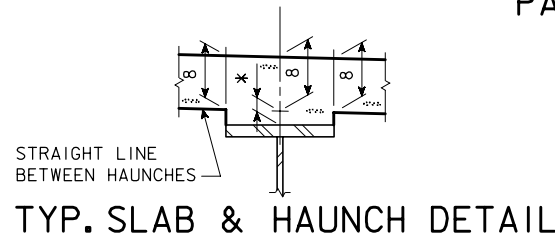
SECTION A-A (NORMAL TO ABUTMENT)

NOTE: TRANSVERSE SLAB REINFORCING NOT SHOWN. PLACE 5d HOOPS PARALLEL TO LONGIT. 6b1 BARS.

NOTE: FOR ADDITIONAL STIFFENER AND WELDING DETAILS SEE DES. SHT.



PART SECTION NEAR PIER



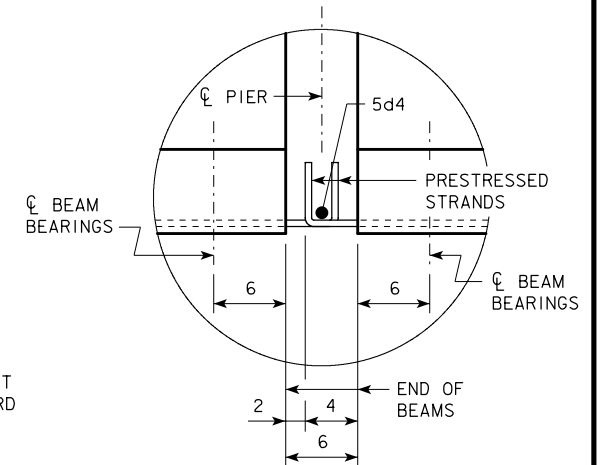
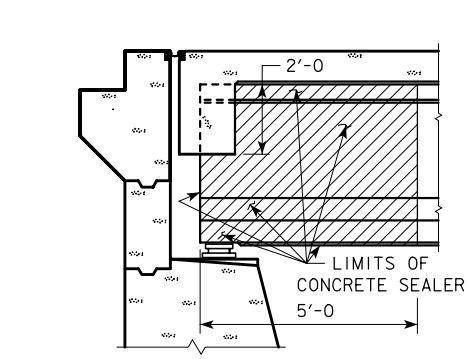
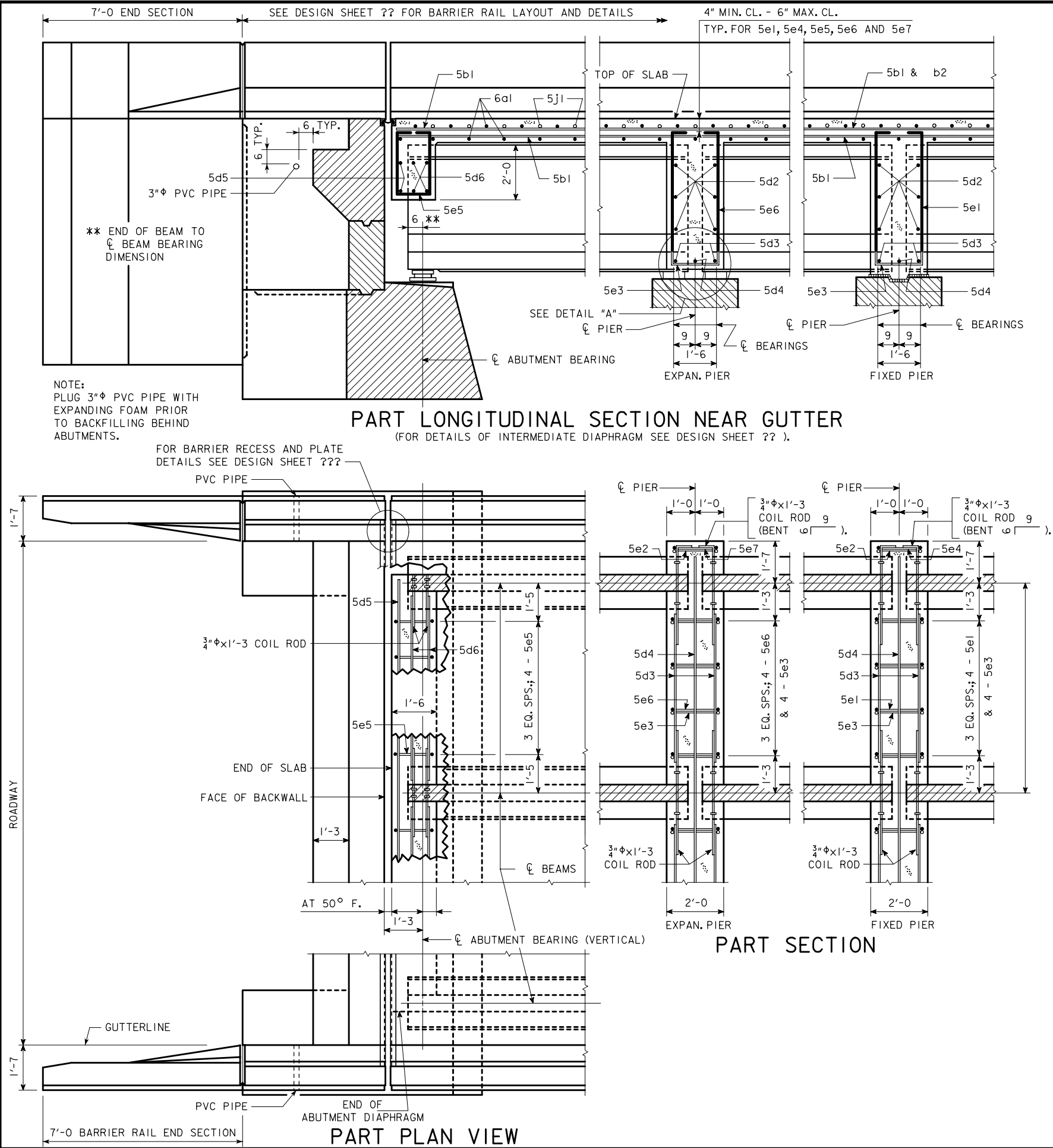
TYP. SLAB & HAUNCH DETAIL

* CONCRETE HAUNCH DIMENSION MEASURED BETWEEN BOTTOM OF SLAB AND TOP OF TOP FLANGE PLATE AS SHOWN ON THE "THEORETICAL CONCRETE HAUNCH DIAGRAM" SHOWN ELSEWHERE ON THESE PLANS.

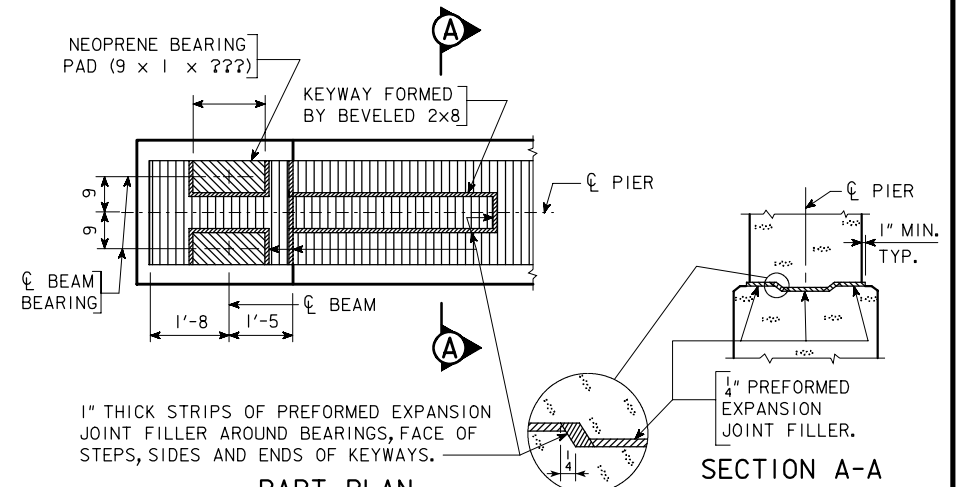
THE MAXIMUM EMBEDMENT OF THE EDGE OF THE TOP FLANGE IN THE SLAB SHALL BE $\frac{1}{2}$ INCH. SHEAR STUDS ARE TO HAVE A MINIMUM PENETRATION OF 2 INCHES INTO THE SLAB AND BE AT LEAST $2\frac{1}{2}$ INCHES CLEAR OF THE TOP OF THE SLAB. THESE REQUIREMENTS WERE USED IN SETTING THE MAXIMUM AND MINIMUM ALLOWABLE FIELD HAUNCH VALUES SHOWN IN THE "MISCELLANEOUS DATA TABLE" SHOWN ELSEWHERE ON THESE PLANS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

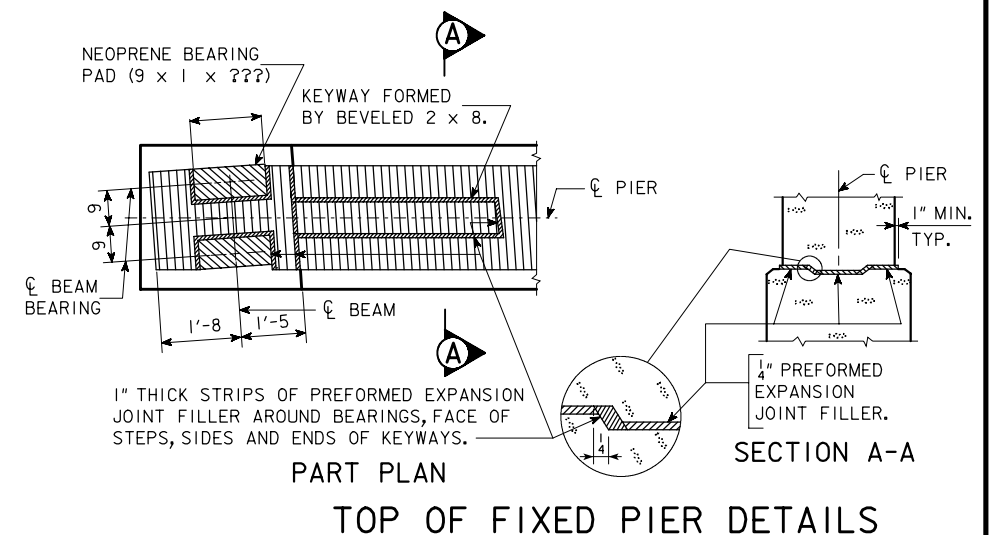
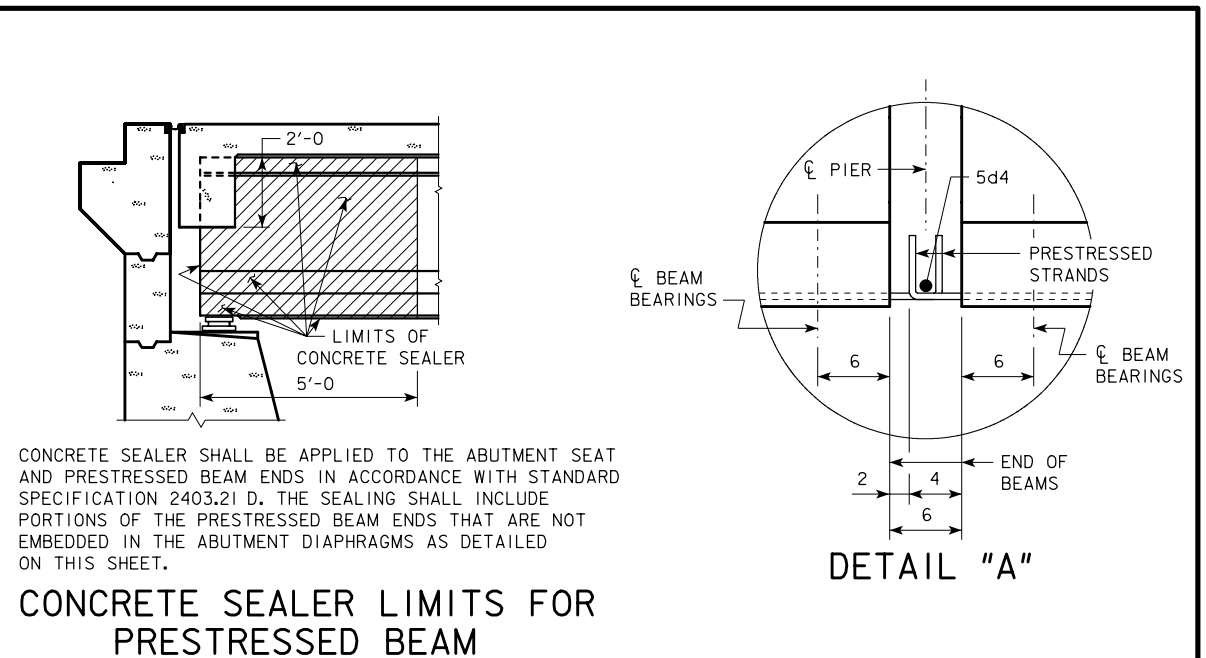
REVISED 03-08 - ABUTMENT WING SHAPE CHANGED, DETAIL "A" ADDED, SLAB THICKNESS INFORMATION MOVED TO ANOTHER STANDARD.
ENGLISHSTUBABUTMENTBRIDGES.DGN 4542 - THIS SHEET REDRAWN 9-8-88.



CONCRETE SEALER LIMITS FOR PRESTRESSED BEAM



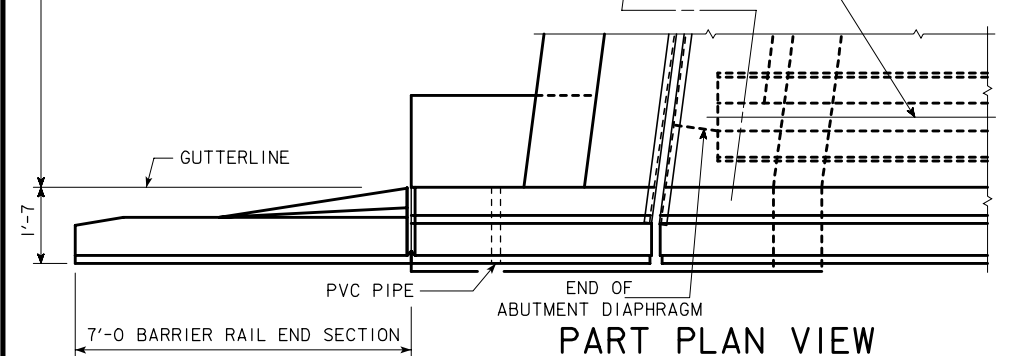
PART PLAN TOP OF FIXED PIER DETAILS



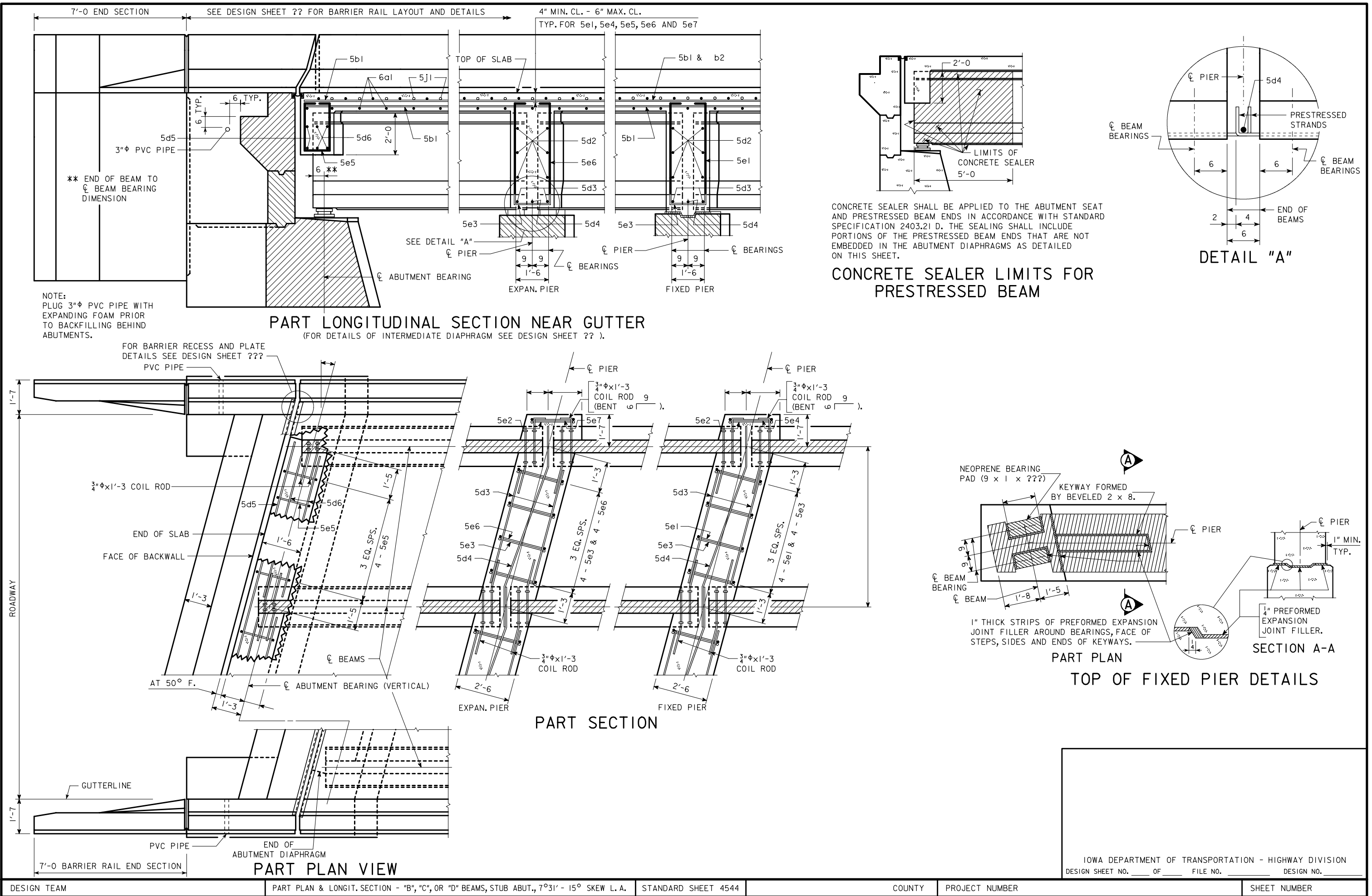
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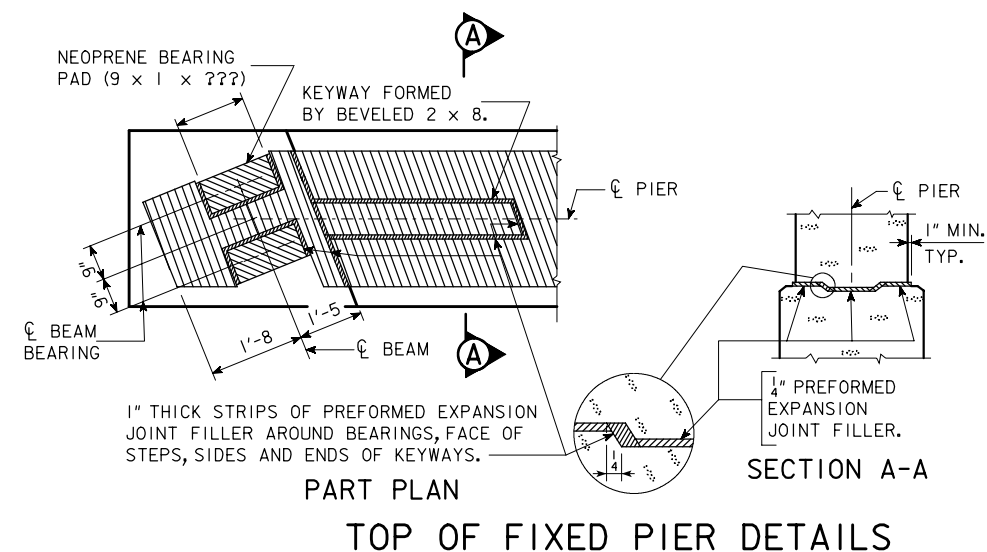
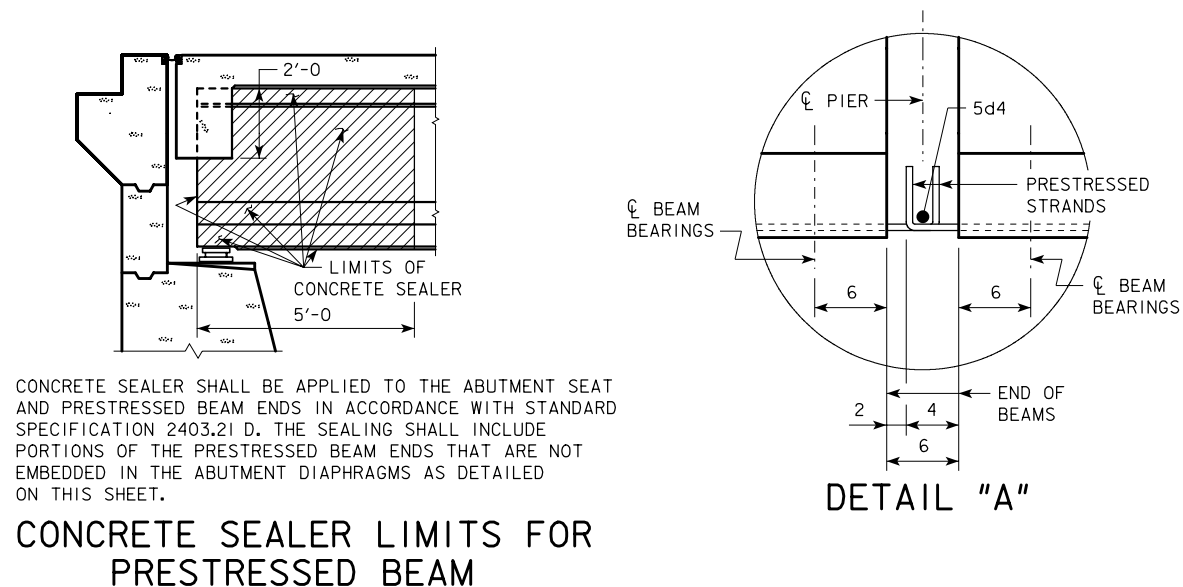
SECTION A-A

TOP OF FIXED PIER DETAILS

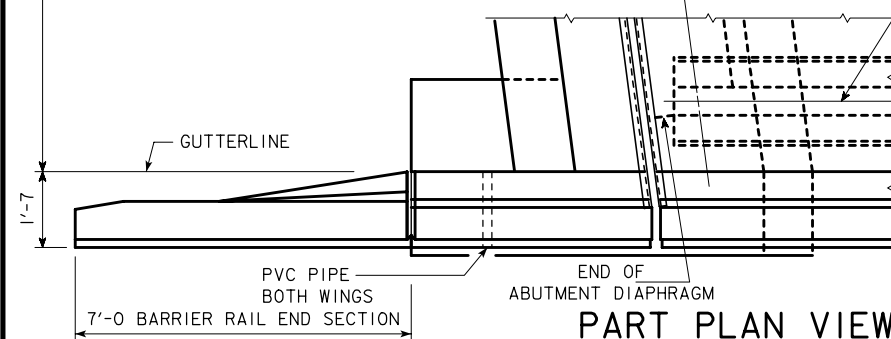
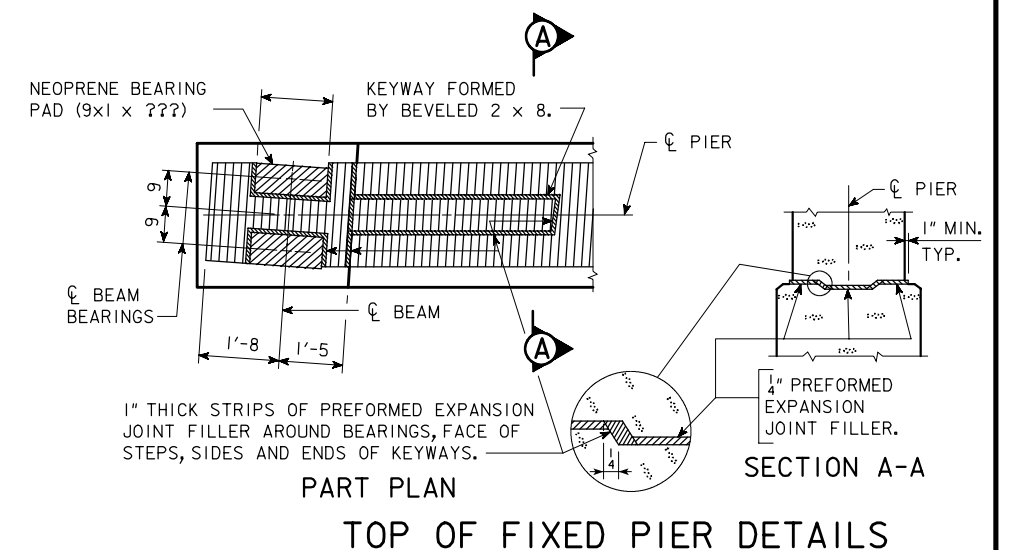
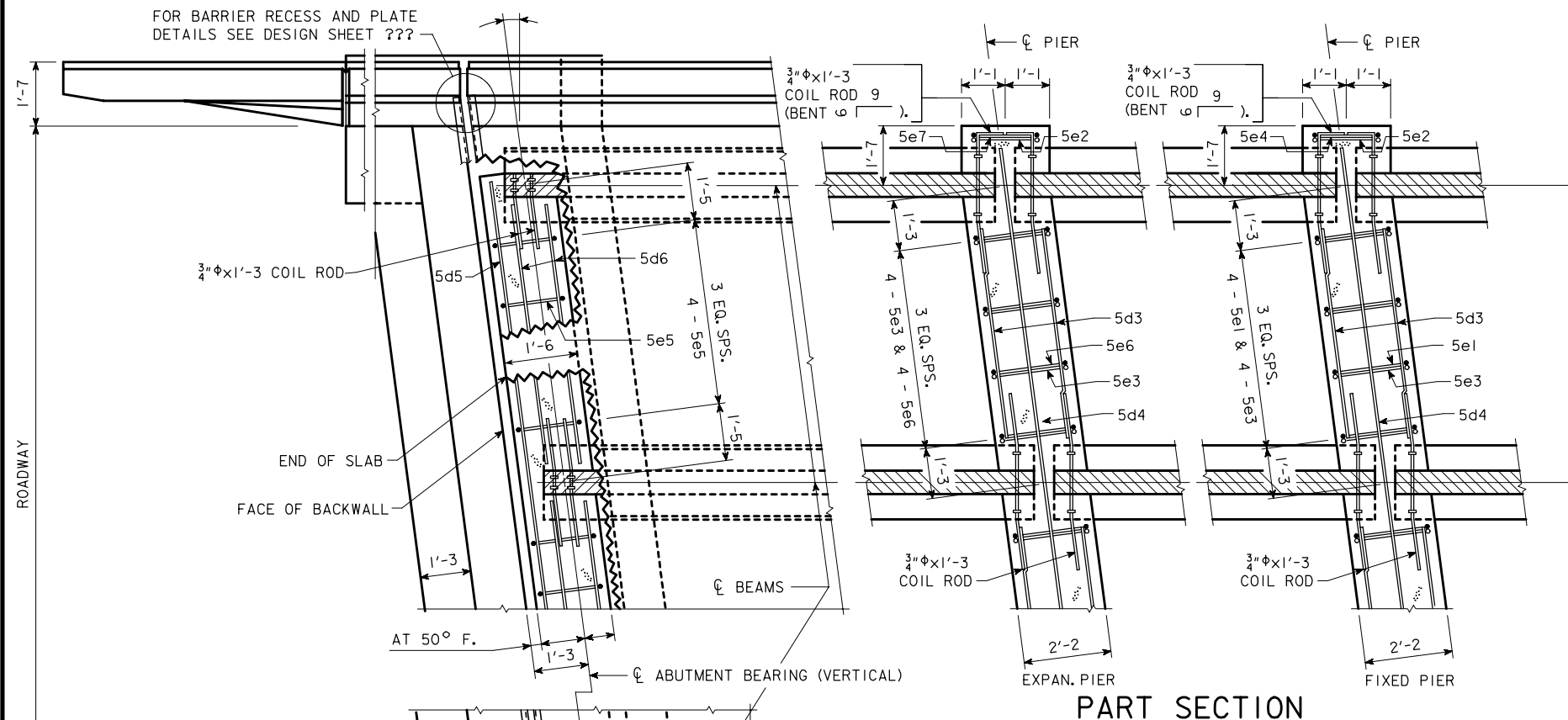
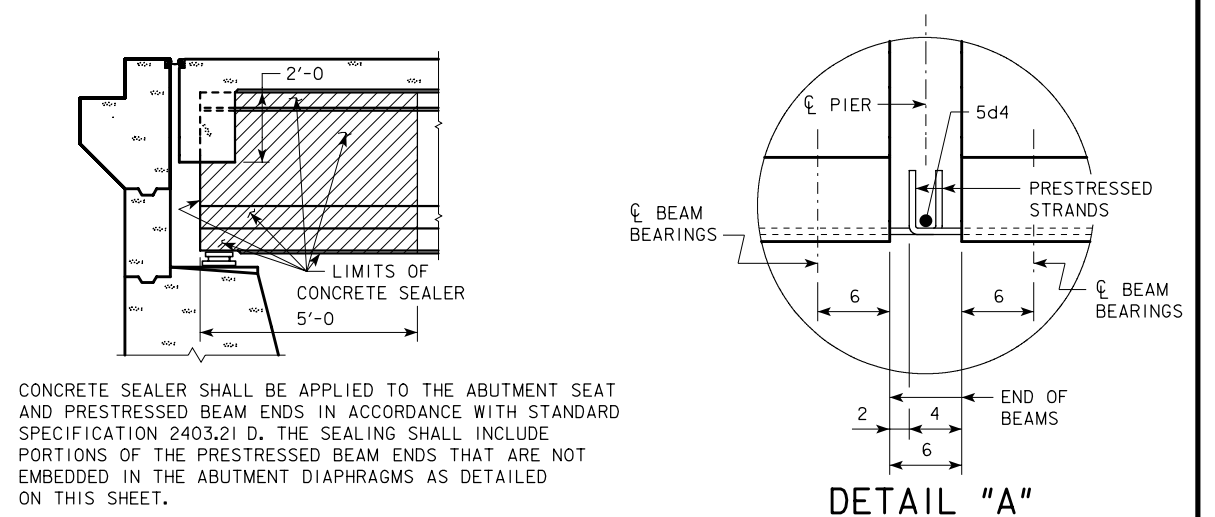
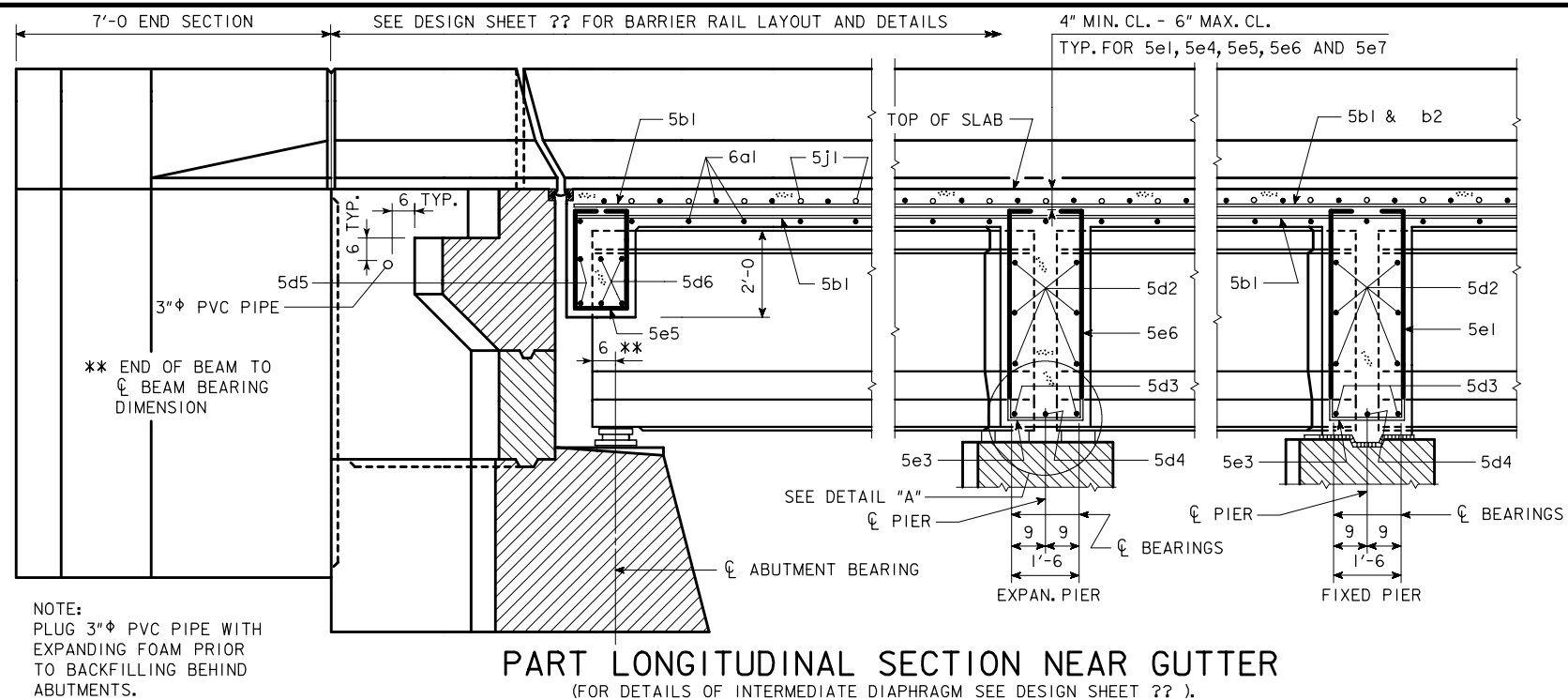


PART SECTION



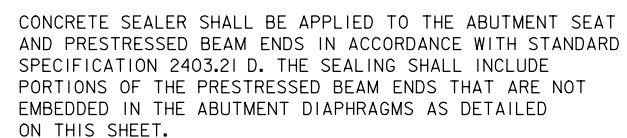
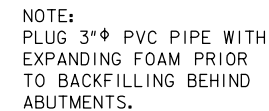


IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. _____ OF _____ FILE NO. _____ DESIGN NO. _____

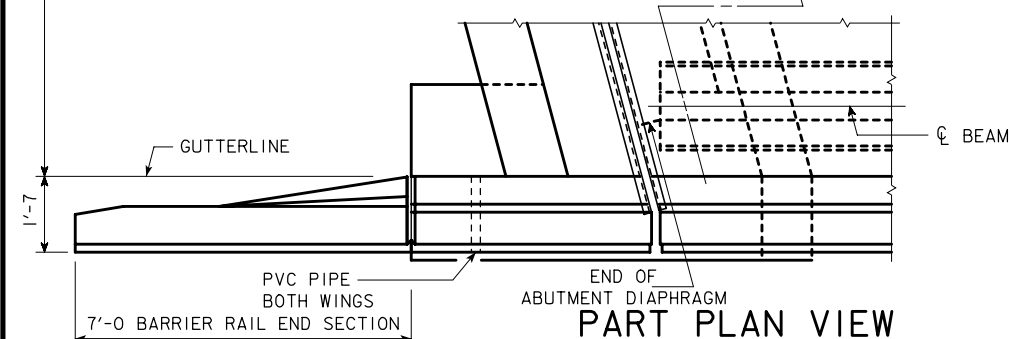
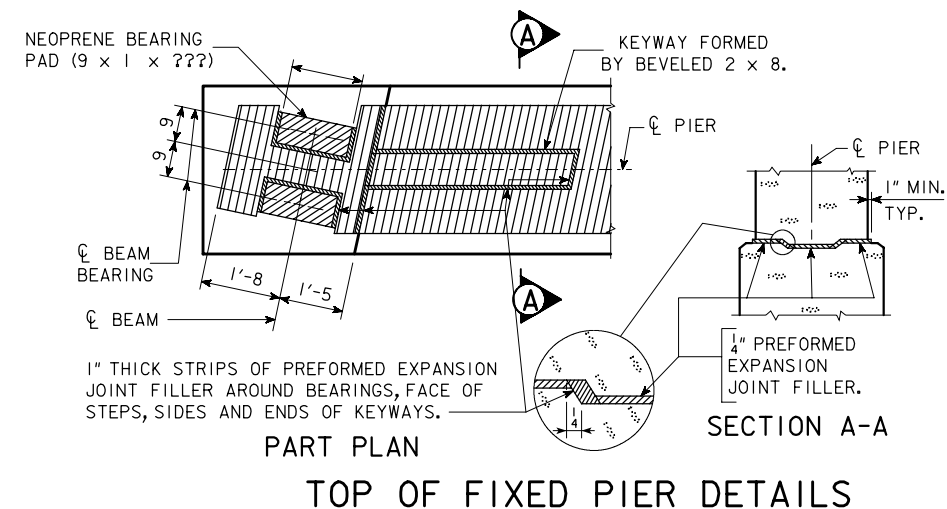


REVISED 03-08 - ABUTMENT WING SHAPE CHANGED. DETAIL "A" ADDED. SLAB THICKNESS INFORMATION MOVED TO ANOTHER STANDARD.
ENGLISH/STUB/ABUTMENT/BRIDGES.DGN 4546 - THIS SHEET REDRAWN 9-8-88.

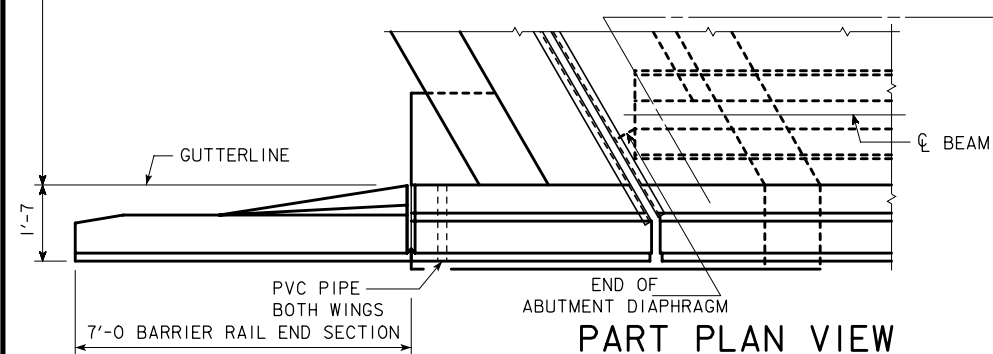
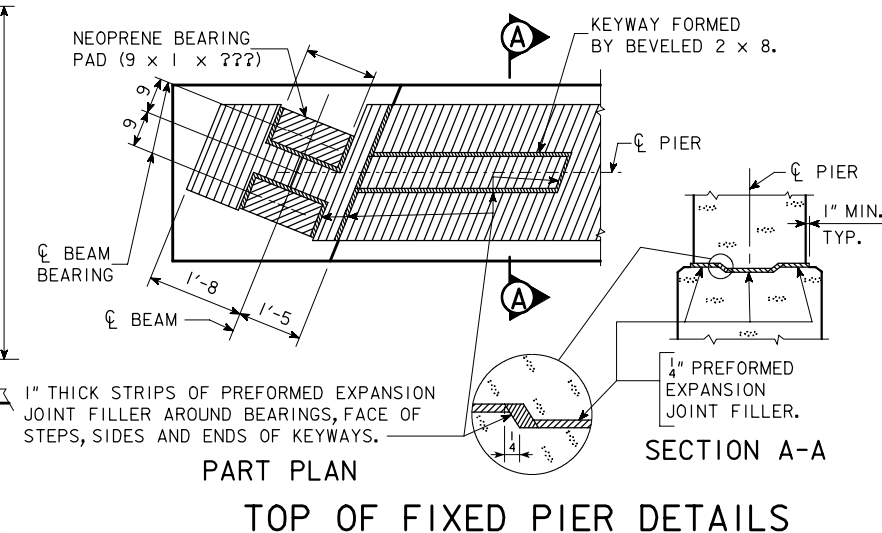
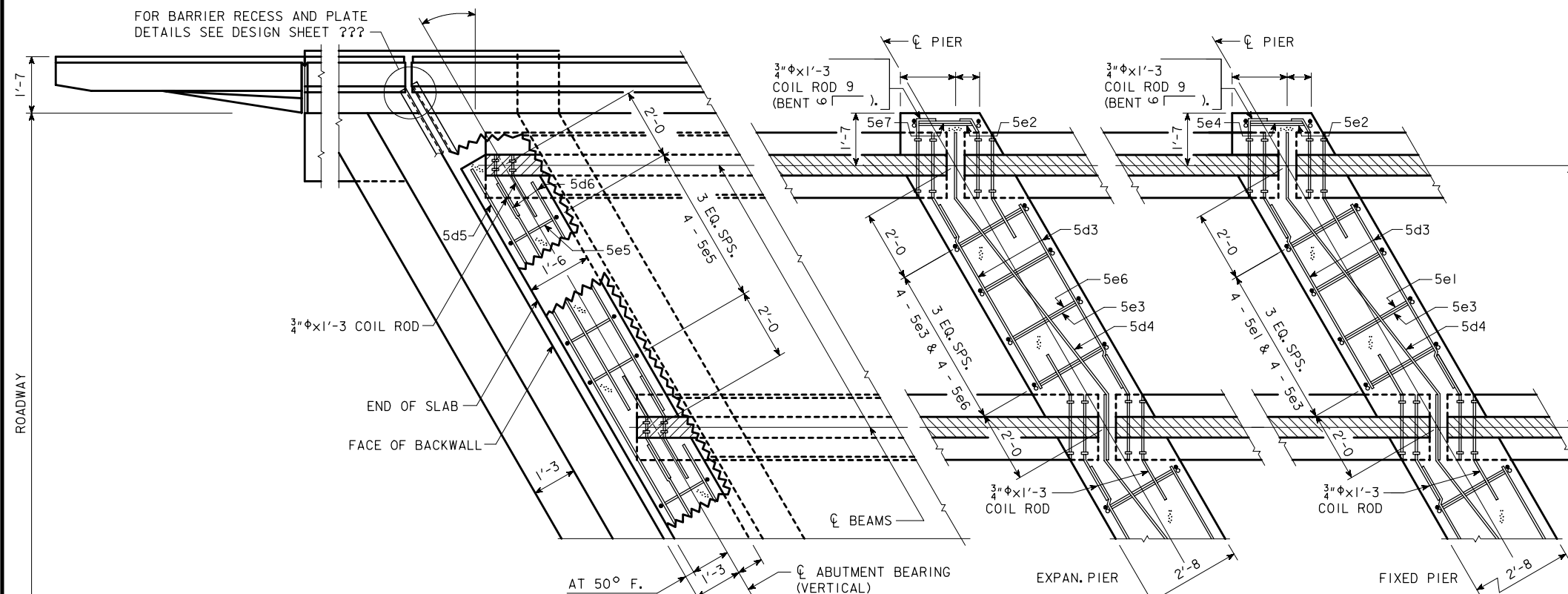
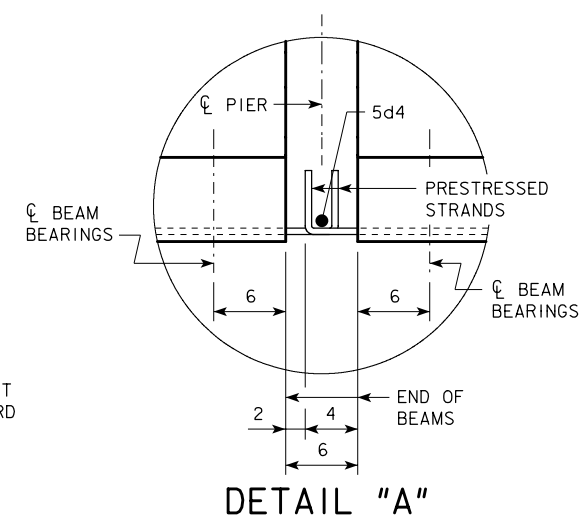
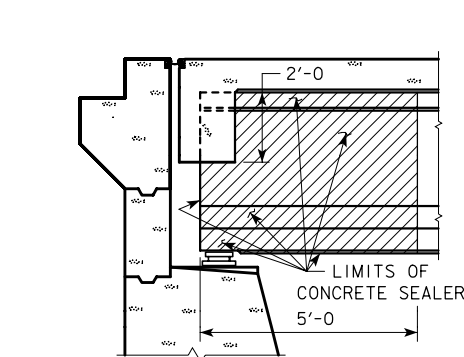
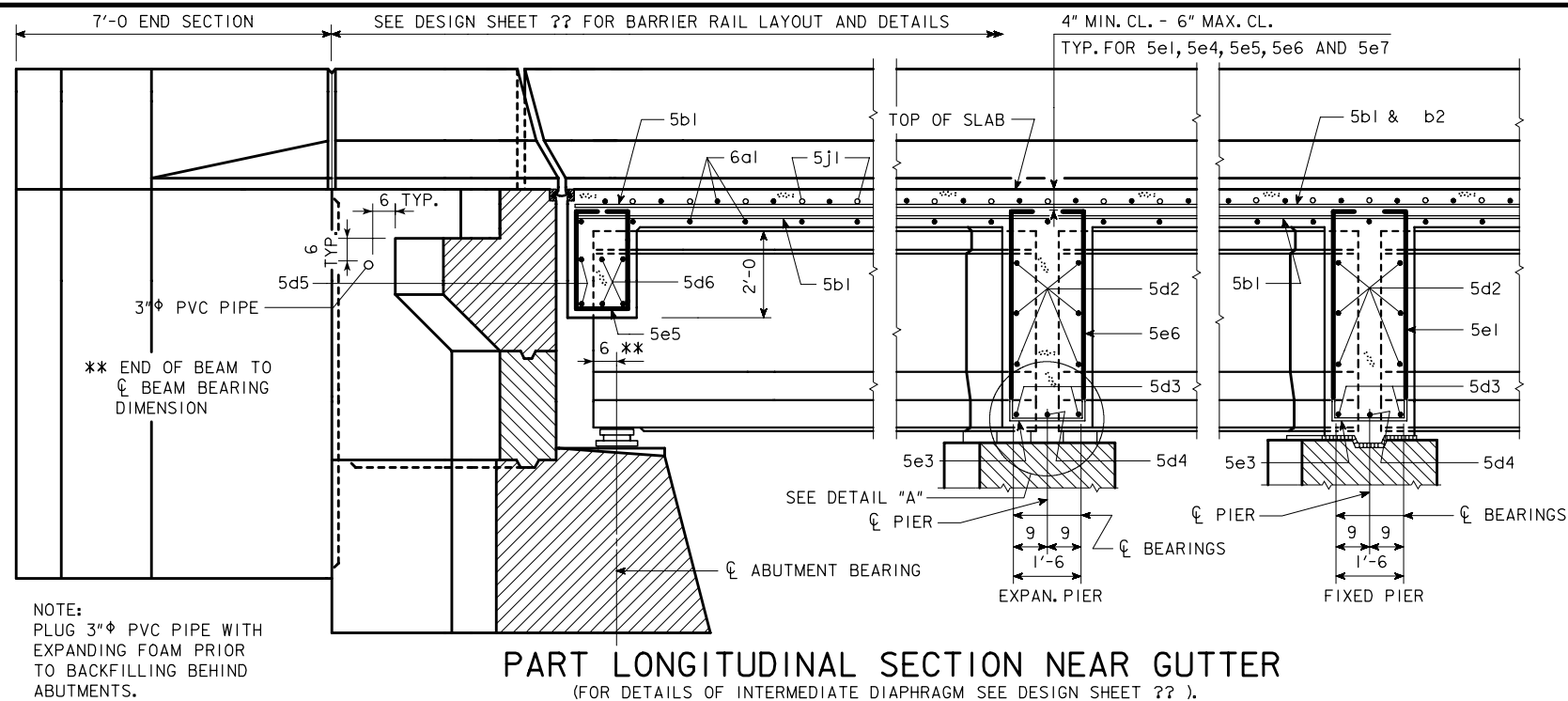
REVISED 03-08 - ABUTMENT WING SHAPE CHANGED. DETAIL "A" ADDED. SLA ENGLISHSTUBABUTMENTBRIDGES.DGN 4547 - THIS SHEET REDRAWN 9-8-88.



DETAIL "A"



IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. OF FILE NO. DESIGN NO.



REVISED 03-08 - ABUTMENT WING SHAPE CHANGED, DETAIL "A" ADDED, SLAB THICKNESS INFORMATION MOVED TO ANOTHER STANDARD.
ENGLISH/STUB/ABUTMENT/BRIDGES.DGN 4548 - THIS SHEET REDRAWN 9-8-88.

REVISED 07-08 - CONCRETE PLACEMENT DIAGRAM NOTE WAS CHANGED.
ENGLISHSTUBABOUTMENTBRIDGES.DGN 4549 - THIS SHEET REDRAWN 9-8-88.

CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

CONC. PLACEMENT QUANTITIES

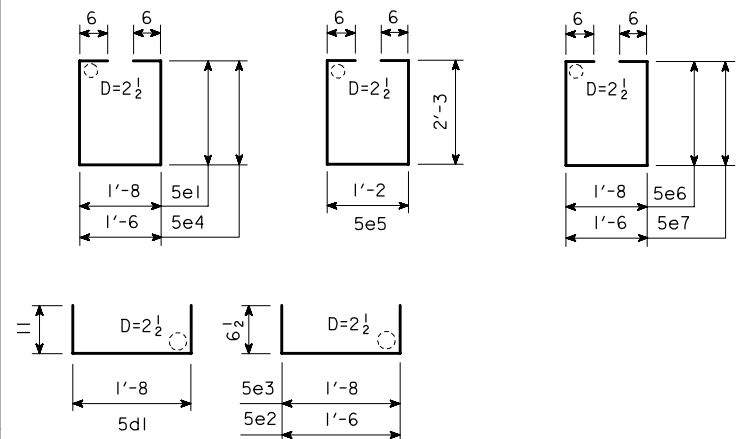
LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB & ABUT. DIAPH.	
SECTION 4, SLAB & PIER DIAPH.	
SECTION 5, SLAB & PIER DIAPH.	
INTERM. DIAPH. ?? AT ???	
TOTAL (CU. YDS.)	

ESTIMATED QUANTITIES SUPERSTR.

ITEM		UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"		CU. YD.	
REINFORCING STEEL EPOXY COATED		LBS.	
PRETENSIONED PRESTRESSED CONCRETE BEAMS		EACH	
		EACH	
		EACH	
STRUCTURAL STEEL		LBS.	
STEEL EXTRUSION JOINT WITH NEOPRENE		L.F.	

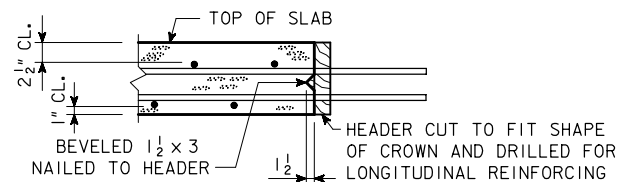
REINFORCING BAR LIST-SUPERSTRUCTURE

EPOXY COATED REINFORCING	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
	6a1	SLAB TRANSV. TOP & BOTT.	—			
	5b1	SLAB LONGIT. TOP & BOTT.	—			
	b2	SLAB LONGIT. TOP AT PIERS	—			
	5d1	PIER DIAPH. ENDS	[]		3'-6	
	5d2	PIER DIAPH. LONGIT.	—			
	5d3	PIER DIAPH. LONGIT.	—			
	5d4	PIER DIAPH. LONGIT.				
	5d5	ABUT. DIAPH. LONGIT.	—			
	5d6	ABUT. DIAPH. LONGIT.	—			
	5e1	PIER DIAPH. HOOPS	[□]			
	5e2	PIER DIAPH. TIES ENDS	[]		2'-7	
	5e3	PIER DIAPH. TIES	[]		2'-9	
	5e4	PIER DIAPH. HOOPS ENDS	[□]			
	5e5	ABUT. DIAPH. HOOPS	[□]		6'-8	
	5e6	EXPAN. PIER DIAPH. HOOPS	[□]			
	5e7	EXPAN. PIER DIAPH. HOOPS ENDS	[□]			
			—			
	5j1	SLAB TRANSV. TOP (AT RAIL)	—		6'-3	
BARRIER RAIL - SEE DES. SHT. NO. ???						
INTERM. DIAPH.- SEE DES. SHT. NO. ???						
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)						



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.

BENT BAR DETAILS



PERMISSIBLE TRANSVERSE SLAB
CONSTRUCTION JOINT

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. OF FILE NO. DESIGN NO.

REVISED 07-08 - CONCRETE PLACEMENT DIAGRAM NOTE WAS CHANGED.
ENGLISHSTUBABOUTMENTBRIDGES.DGN 4550 - THIS SHEET REDRAWN 9-8-88.

CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

CONC. PLACEMENT QUANTITIES

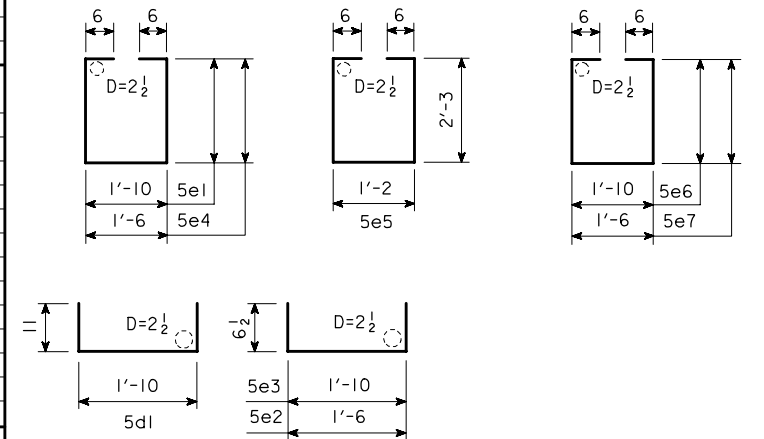
LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB & ABUT. DIAPH.	
SECTION 4, SLAB & PIER DIAPH.	
SECTION 5, SLAB & PIER DIAPH.	
INTERM. DIAPH. ?? AT ???	
TOTAL (CU. YDS.)	

ESTIMATED QUANTITIES SUPERSTR.

ITEM		UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"		CU. YD.	
REINFORCING STEEL EPOXY COATED		LBS.	
PRETENSIONED		EACH	
PRESTRESSED		EACH	
CONCRETE BEAMS		EACH	
STRUCTURAL STEEL		LBS.	
STEEL EXTRUSION JOINT WITH NEOPRENE		L.F.	

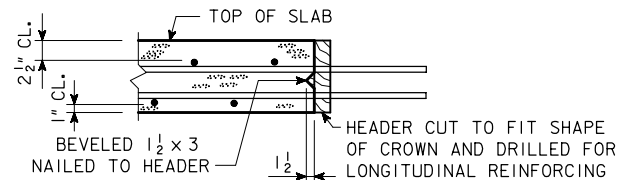
REINFORCING BAR LIST-SUPERSTRUCTURE

EPOXY COATED REINFORCING	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
	6a1	SLAB TRANSV. TOP & BOTT.	—			
	5b1	SLAB LONGIT. TOP & BOTT.	—			
	b2	SLAB LONGIT. TOP AT PIERS	—			
	5d1	PIER DIAPH. ENDS	┌		3'-8	
	5d2	PIER DIAPH. LONGIT.	—			
	5d3	PIER DIAPH. LONGIT.	—			
	5d4	PIER DIAPH. LONGIT.	—			
	5d5	ABUT. DIAPH. LONGIT.	—			
	5d6	ABUT. DIAPH. LONGIT.	—			
	5e1	PIER DIAPH. HOOPS	□			
	5e2	PIER DIAPH. TIES ENDS	┌		2'-7	
	5e3	PIER DIAPH. TIES	┌		2'-11	
	5e4	PIER DIAPH. HOOPS ENDS	□			
	5e5	ABUT. DIAPH. HOOPS	□		6'-8	
	5e6	EXPAN. PIER DIAPH. HOOPS	□			
	5e7	EXPAN. PIER DIAPH. HOOPS ENDS	□			
	5j1	SLAB TRANSV. TOP (AT RAIL)	—		6'-3	



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.

BENT BAR DETAILS



PERMISSIBLE TRANSVERSE SLAB CONSTRUCTION JOINT

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. OF FILE NO. DESIGN NO.

REVISED 07-08 - CONCRETE PLACEMENT DIAGRAM NOTE WAS CHANGED.
ENGLISHSTUBABUTMENTBRIDGES.DGN 4551 - THIS SHEET REDRAWN 9-8-88.

CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

CONC. PLACEMENT QUANTITIES

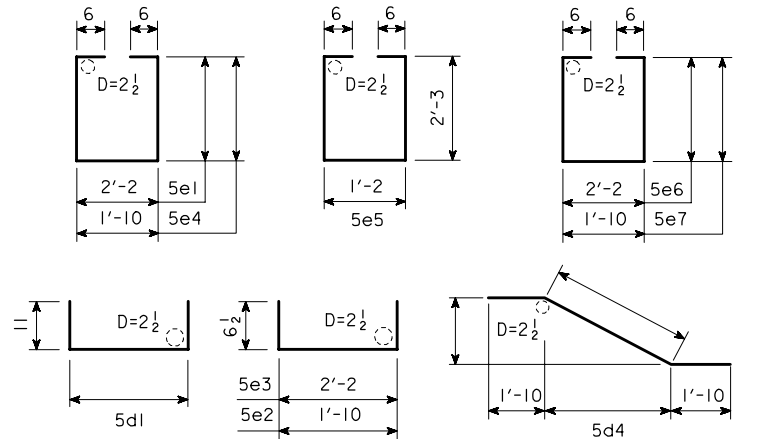
LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB & ABUT. DIAPH.	
SECTION 4, SLAB & PIER DIAPH.	
SECTION 5, SLAB & PIER DIAPH.	
INTERM. DIAPH. ?? AT ???	
TOTAL (CU. YDS.)	

ESTIMATED QUANTITIES SUPERSTR.	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
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82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"	CU. YD.	
REINFORCING STEEL EPOXY COATED	LBS.	
PRETENSIONED	EACH	
PRESTRESSED	EACH	
CONCRETE BEAMS	EACH	
STRUCTURAL STEEL	LBS.	
STEEL EXTRUSION JOINT WITH NEOPRENE	L.F.	

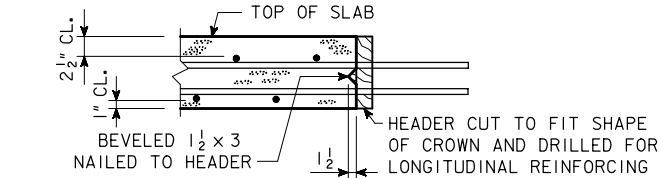
REINFORCING BAR LIST-SUPERSTRUCTURE

EPOXY COATED REINFORCING	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
	6a1	SLAB TRANSV. TOP & BOTT.	—			
	6a2	SLAB TRANSV. TOP ENDS	—			
	6a3	SLAB TRANSV. BOTT. ENDS	—			
	5b1	SLAB LONGIT. TOP & BOTT.	—			
	b2	SLAB LONGIT. TOP AT PIERS	—			
	5d1	PIER DIAPH. ENDS	[]			
	5d2	PIER DIAPH. LONGIT.				
	5d3	PIER DIAPH. LONGIT.				
	5d4	PIER DIAPH. LONGIT.	/ \			
	5d5	ABUT. DIAPH. LONGIT.	— —			
	5d6	ABUT. DIAPH. LONGIT.	—			
	5e1	PIER DIAPH. HOOPS	[]			
	5e2	PIER DIAPH. TIES ENDS	[]		2'-11	
	5e3	PIER DIAPH. TIES	[]		3'-3	
	5e4	PIER DIAPH. HOOPS ENDS	[]			
	5e5	ABUT. DIAPH. HOOPS	[]		6'-8	
	5e6	EXPAN. PIER DIAPH. HOOPS	[]			
	5e7	EXPAN. PIER DIAPH. HOOPS ENDS	[]			
	5j1	SLAB TRANSV. TOP (AT RAIL)	—		6'-3	



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.

BENT BAR DETAILS



PERMISSIBLE TRANSVERSE SLAB CONSTRUCTION JOINT

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. _____ OF _____ FILE NO. _____ DESIGN NO. _____

REVISED 07-08 - CONCRETE PLACEMENT DIAGRAM NOTE WAS CHANGED.
ENGLISHSTUBABOUTMENTBRIDGES.DGN 4552 - THIS SHEET REDRAWN 9-8-88.

CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

CONC. PLACEMENT QUANTITIES

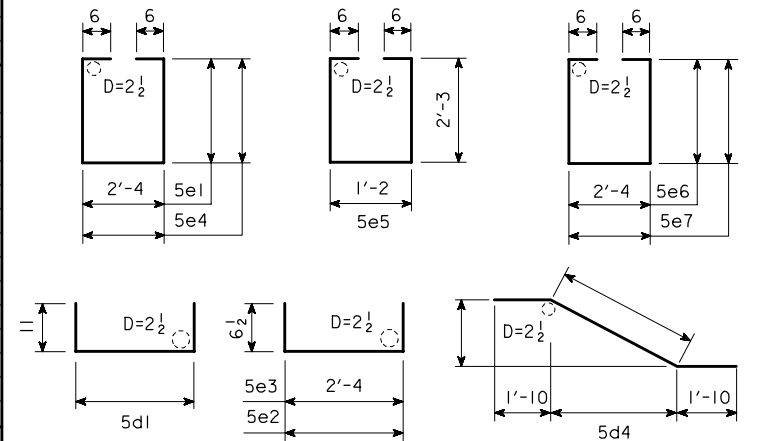
LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB & ABUT. DIAPH.	
SECTION 4, SLAB & PIER DIAPH.	
SECTION 5, SLAB & PIER DIAPH.	
INTERM. DIAPH. ?? AT ???	
TOTAL (CU. YDS.)	

ESTIMATED QUANTITIES SUPERSTR.

ITEM		UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"		CU. YD.	
REINFORCING STEEL EPOXY COATED		LBS.	
PRETENSIONED		EACH	
PRESTRESSED		EACH	
CONCRETE BEAMS		EACH	
STRUCTURAL STEEL		LBS.	
STEEL EXTRUSION JOINT WITH NEOPRENE		L.F.	

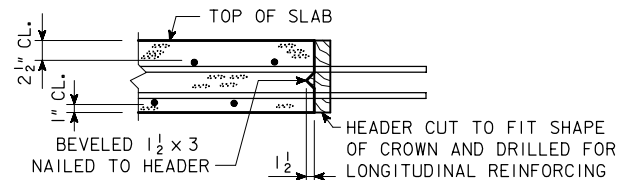
REINFORCING BAR LIST-SUPERSTRUCTURE

EPOXY COATED REINFORCING	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
	6a1	SLAB TRANSV. TOP & BOTTL.	—			
	6a2	SLAB TRANSV. TOP ENDS	—			
	6a3	SLAB TRANSV. BOTTL. ENDS	—			
	5b1	SLAB LONGIT. TOP & BOTTL.	—			
	b2	SLAB LONGIT. TOP AT PIERS	—			
	5d1	PIER DIAPH. ENDS	[]			
	5d2	PIER DIAPH. LONGIT.				
	5d3	PIER DIAPH. LONGIT.				
	5d4	PIER DIAPH. LONGIT.	/ \			
	5d5	ABUT. DIAPH. LONGIT.				
	5d6	ABUT. DIAPH. LONGIT.	—			
	5e1	PIER DIAPH. HOOPS	[]			
	5e2	PIER DIAPH. TIES ENDS	[[]]			
	5e3	PIER DIAPH. TIES	[]		3'-5	
	5e4	PIER DIAPH. HOOPS ENDS	[]			
	5e5	ABUT. DIAPH. HOOPS	[]		6'-8	
	5e6	EXPAN. PIER DIAPH. HOOPS	[]			
	5e7	EXPAN. PIER DIAPH. HOOPS ENDS	[]			
	5j1	SLAB TRANSV. TOP (AT RAIL)	—		6'-3	
		BARRIER RAIL - SEE DES. SHT. NO. ???				
		INTERM. DIAPH.- SEE DES. SHT. NO. ???				
		REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)				



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.

BENT BAR DETAILS



PERMISSIBLE TRANSVERSE SLAB CONSTRUCTION JOINT

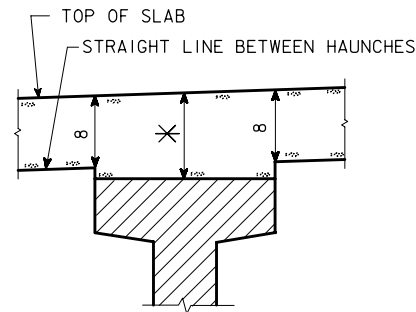
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. _____ OF _____ FILE NO. _____ DESIGN NO. _____

ENGLISHSTUBABUTMENTBRIDGES.DGN 4556 - THIS SHEET ISSUED 11-06. LRFD DESIGNED SLAB.

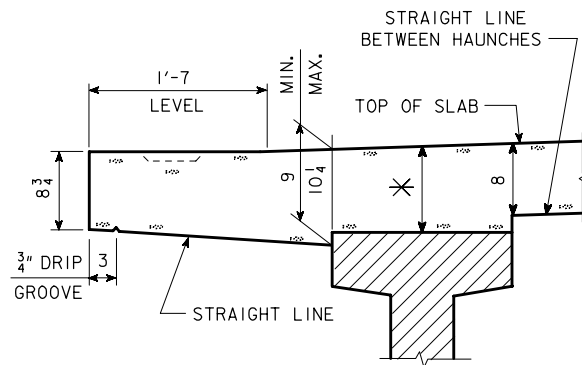
TABLE OF SIZE OF 'b2' BAR

LONGEST ADJACENT SPAN BEAM		BAR SIZE
B & C	D	
34'-2	35'-0	5
38'-4	40'-0	5
42'-6	45'-0	5
46'-8	50'-0	5
50'-10	55'-0	6
55'-0	60'-0	6
59'-2	65'-0	6
63'-4		7
67'-6		7
71'-8	70'-0	7
75'-10	75'-0	8
80'-0	80'-0	8
	85'-0	8
	90'-0	8
	95'-0	8
	100'-0	9
	105'-0	9
	110'-0	9

THE MIDPOINT OF THE 'b2' BAR IS TO BE PLACED AT THE \bar{C} OF PIER.



INTERIOR BEAMS

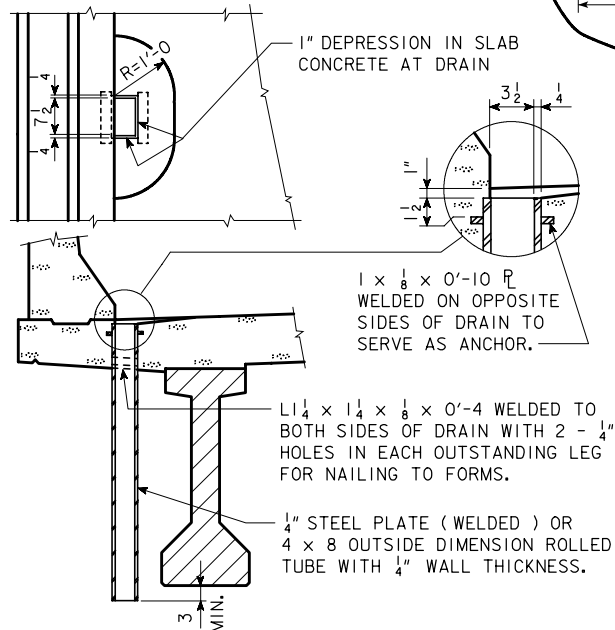


EXTERIOR BEAMS

TYPICAL SLAB AND HAUNCH DETAIL

* FOR SLAB THICKNESS OVER BEAMS SEE "SLAB THICKNESS DETAILS" ON DESIGN SHEET NO. ??.

REDRAW FOR 'B' BEAMS TO ALIGN FOOTING & BACKWALL FACES. DIMENSION $3'-1\frac{3}{4}$ BECOMES $3'-1$.

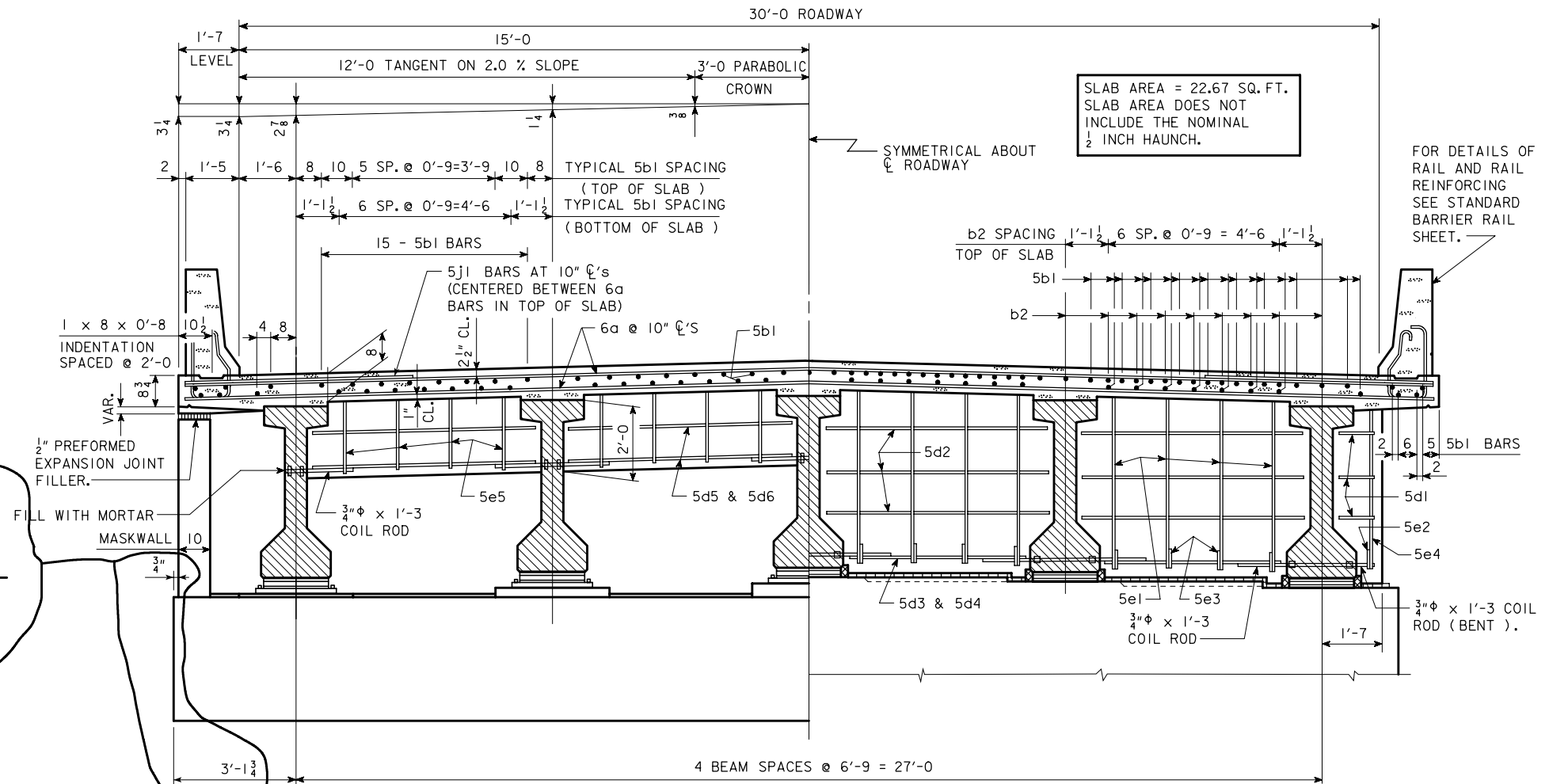


DRAIN DETAILS

NOTE : DRAINS ARE TO BE GALVANIZED. ?? DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET ?? FOR LOCATION. WEIGHT OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". WEIGHT IS BASED ON ROLLED TUBE.

DATA FOR ONE DRAIN

BEAM SIZE	B	C	D
WT. LBS.	82	92	106
LENGTH FT.	4'-2 $\frac{3}{4}$	4'-8 $\frac{3}{4}$	5'-5 $\frac{3}{4}$



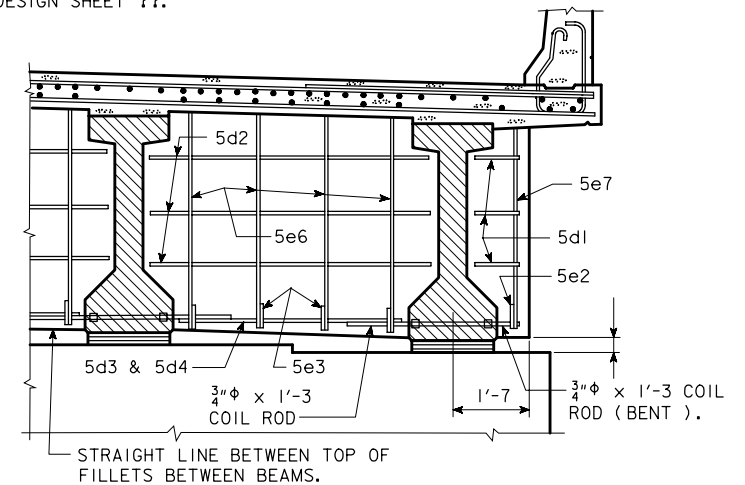
HALF SECTION NEAR ABUTMENT

NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.

HALF SECTION NEAR FIXED PIER

SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES $\frac{1}{2}$ " INTEGRAL WEARING SURFACE.
THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE FLOOR SLAB.
COST OF ALL PREFORMED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".
ALL BEAMS ARE TO BE SET VERTICAL.
FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE PRESTRESSED CONCRETE BEAMS.
CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
ALL SLAB AND DIAPHRAGM REINFORCING IS TO BE WIRED IN PLACE AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS PLACED.
TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND $2\frac{1}{2}$ " CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB.
TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0" CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0" APART.



PART SECTION NEAR EXPANSION PIER

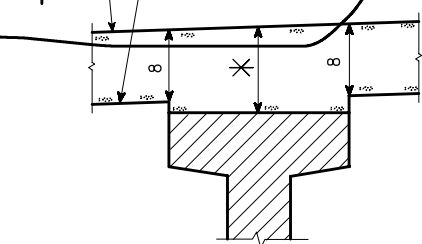
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

ENGLISHSTUBABUTMENTBRIDGES.DGN 4560 - THIS SHEET ISSUED 11-06. LRFD DESIGNED SLAB.

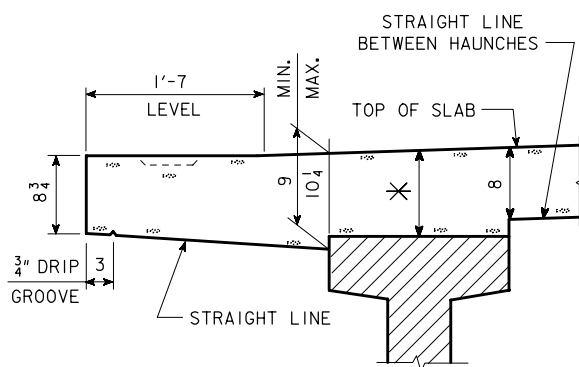
TABLE OF SIZE OF 'b2' BAR

LONGEST ADJACENT SPAN BEAM		BAR SIZE
B & C	D	
34'-2	35'-0	5
38'-4	40'-0	5
42'-6	45'-0	5
46'-8	50'-0	5
50'-10	55'-0	6
55'-0	60'-0	6
59'-2	65'-0	6
63'-4		7
67'-6		7
71'-8	70'-0	7
75'-10	75'-0	8
80'-0	80'-0	8
	85'-0	8
	90'-0	8
	95'-0	8
	100'-0	9
	105'-0	9
	110'-0	9

THE MIDPOINT OF THE 'b2' BAR IS TO BE REDRAWN FOR 'B' BEAMS TO ALIGN FOOTING & BACKWALL FACES. DIMENSION 3'-1³/₄ BECOMES 3'-1.



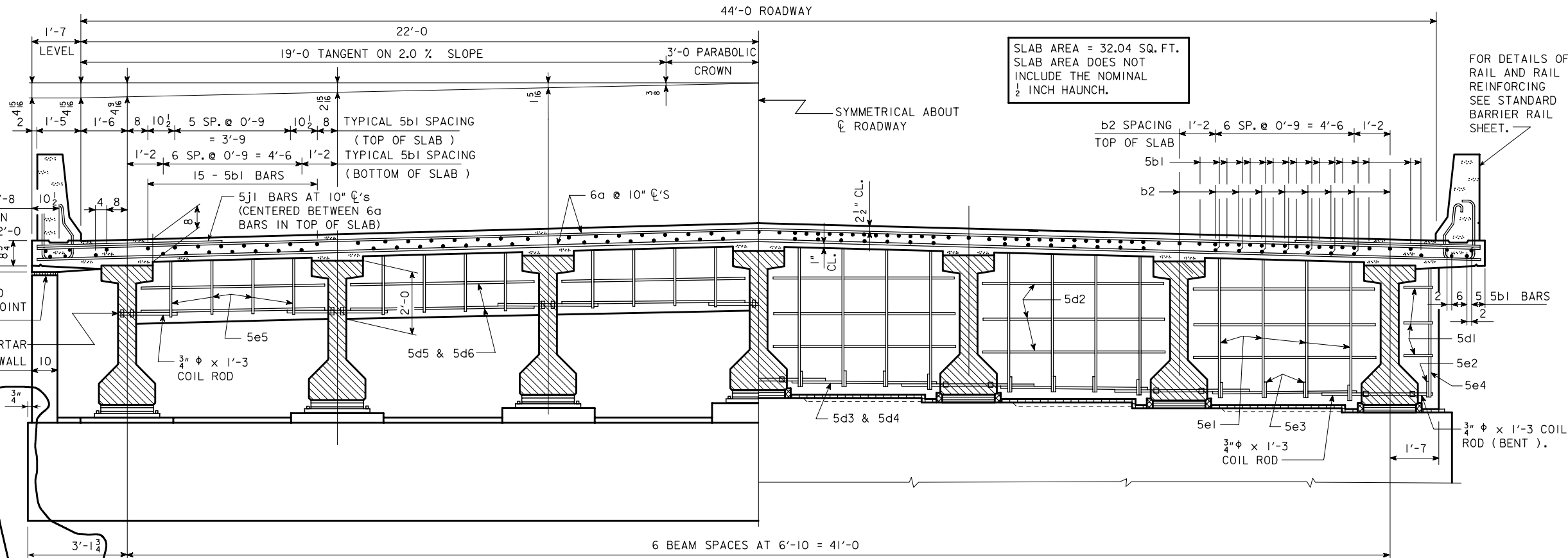
INTERIOR BEAMS



EXTERIOR BEAMS

TYPICAL SLAB AND HAUNCH DETAIL

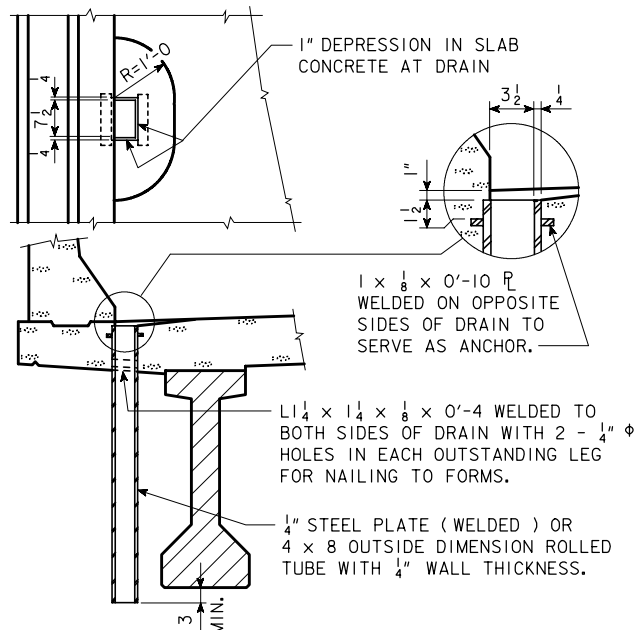
* FOR SLAB THICKNESS OVER BEAMS SEE "SLAB THICKNESS DETAILS" ON DESIGN SHEET NO. ??.



HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR FIXED PIER

NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.



DRAIN DETAILS

NOTE : DRAINS ARE TO BE GALVANIZED. ?? DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET ?? FOR LOCATION. WEIGHT OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". WEIGHT IS BASED ON ROLLED TUBE.

DATA FOR ONE DRAIN

BEAM SIZE	B	C	D
WT. LBS.	82	92	106
LENGTH FT.	4'-2 ³ / ₄	4'-8 ³ / ₄	5'-5 ³ / ₄

SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES 1/2" INTEGRAL WEARING SURFACE.

THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE FLOOR SLAB.

COST OF ALL PREFORMED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)". ALL BEAMS ARE TO BE SET VERTICAL.

FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE PRESTRESSED CONCRETE BEAMS.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN. ALL SLAB AND DIAPHRAGM REINFORCING IS TO BE WIRED IN PLACE AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS PLACED.

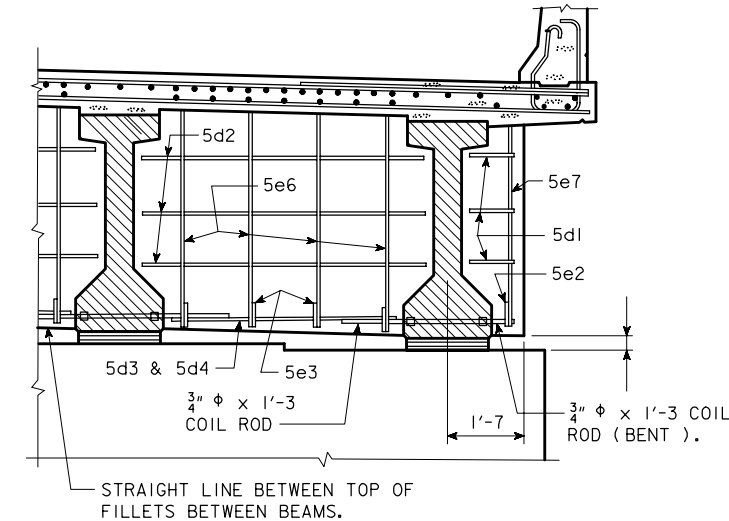
TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 2 1/2" CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0 APART.

TRANSVERSE SLAB REINFORCING MAY BE SPLICED WITH ONE LAP LOCATED AS FOLLOWS:

TOP BAR - LAP MIDWAY BETWEEN BEAMS (MIN. LAP = 1'-10).

BOTTOM BARS - LAP OVER BEAMS (MIN. LAP = 1'-10).

PAYMENT FOR REINFORCING BARS SHALL BE BASED ON NO SPLICES, AND NO ALLOWANCE SHALL BE MADE FOR THE ADDITIONAL LENGTH OF BAR REQUIRED FOR THE USE OF SPLICES.



PART SECTION NEAR EXPANSION PIER

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

DESIGN TEAM

44' RDWY. PPCB (B, C & D BEAMS - STUB ABUT.) CROSS SECTION - LRFD DESIGN

STANDARD SHEET 4560

COUNTY

PROJECT NUMBER

SHEET NUMBER

28-JAN-2010 14:19

tsorens

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